6000 **Oral Abstract Session, Fri, 8:00 AM-11:00 AM**

Randomized phase III study to evaluate the impact of secondary cytoreductive surgery in recurrent ovarian cancer: Final analysis of AGO DESKTOP III/ENGOT-ov20.

Andreas Du Bois, Jalid Sehouli, Ignace Vergote, Gwenael Ferron, Alexander Reuss, Werner Meier, Stefano Greggi, Pernille Tina Jensen, Frederic Selle, Frederic Guyon, Christophe Pomel, Fabrice Lecuru, Rongyu Zang, Elisabeth Avall-Lundqvist, Jae-Weon Kim, Jordi Ponce, Francesco Raspagliesi, Sadaf Ghaem-Maghami, Alexander Reinthaller, Philipp Harter; AGO & Ev. Kliniken Essen-Mitte, Essen, Germany; NOGGO and Charité Campus Virchow-Klinikum, Berlin, Germany; BGOG and University Hospitals Leuven, Leuven Cancer Institute, Leuven, Belgium; GINECO and Institut Claudius Regaud, Toulouse, France; AGO & Coordinating Center for Clinical Trials, Philipps-University of Marburg, Marburg, Germany; AGO and Frauenklinik, Evangelisches Krankenhaus Duesseldorf, Duesseldorf, Germany; MITO & Gynecologic Oncology, Instituto Tumori Fondazione G. Pascale, Naples, Italy; NSGO and Odense University Hospital, Odense, Denmark; Tenon Hospital, Paris, France; GINECO & Institut Bergonie, Bordeaux, France; GINECO and Centre Jean Perrin, Clermont-Ferrand, France; GINECO & Curie Institute, Paris, France; SGOG and Shanghai Fudan University, Shanghai, China; NSGO & Linköping University and Karolinska Institute, Linköping, Sweden; KGOG & Seoul National University, Seoul, South Korea; GEICO and Bellvitge Hospital, Barcelona, Spain; MITO & Fondazione IRCCS Istituto Nazionale Tumori, Milan, Italy; NCRI and Imperial College London, London, United Kingdom; AGO-Austria and University of Vienna, Vienna, Austria; AGO & Ev. Kliniken Essen-Mitte (PI), Essen, Germany

Background: The role of secondary cytoreductive surgery in recurrent ovarian cancer (ROC) has been under debate for decades. A recent trial in unselected patients (pts) failed to show an OS benefit. **Methods:** Pts with ROC and 1st relapse after 6+ months (mos) platinum-free interval (TFIp) were eligible if they presented with a positive AGO-score (PS ECOG 0, ascites $\leq$500 ml, and complete resection at initial surgery) and were prospectively randomized to second-line chemotherapy alone vs. cytoreductive surgery followed by the same chemotherapy; platinum combination therapy was recommended. OS was primary endpoint in this superiority trial. **Results:** 407pts were randomized 2010-2014. The TFIp exceeded 12 mos in 75% of pts. 206 pts were allocated to the surgery arm of whom finally 187 (91%) were operated. A complete resection was achieved in 75%; almost 90% in both arms received a platinum-containing second-line chemo. Primary endpoint analysis showed median OS of 53.7 mos with and 46.2 mos without surgery (HR 0.76, 95%CI 0.59-0.97, p=0.03); median PFS was 18.4 and 14 mos (HR: 0.66, 95%CI 0.54-0.82, p$<$0.001), median time to start of first subsequent therapy (TFST) was 17.9 vs. 13.7 mos in favor of the surgery arm (HR 0.65, 95%CI 0.52-0.81, p$<$0.001). An analysis according to treatment showed an OS benefit exceeding 12 mos for pts with complete resection (CR) compared to pts without surgery (median 60.7 vs. 46.2 mos); pts with surgery and incomplete resection even did worse (median 28.8 mos). 60 d mortality rates were 0 and 0.5% in the surgery and no-surgery arm. Re-laparotomies were performed in 3.7% of operated pts. Further grade 3/4 adverse events did not differ significantly between arms. **Conclusions:** This is the first surgical study demonstrating a meaningful survival benefit in OC: Surgery in pts with first relapse and TFIp of 6+ mos and selected by a positive AGO-Score resulted in a significant increase of OS, PFS and TFST with acceptable morbidity and, therefore, should be offered to suitable pts. The benefit was exclusively seen in pts with CR indicating the importance of both the optimal selection of pts (eg. by AGO score) and of centres with expertise and a high chance of achieving a CR. Clinical trial information: NCT01166737. Research Sponsor: None.

6001 **Oral Abstract Session, Fri, 8:00 AM-11:00 AM**

A randomized phase III trial of secondary cytoreductive surgery in later recurrent ovarian cancer: SOC1/SGOG-OV2.

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Background: In China, secondary cytoreductive surgery (SCR) has been standard of care in some high volume cancer centers for ovarian cancer (OC) and most pts prefer surgery over the past two decades. Although GOG213 showed no OS benefit, the debate on selected pts and the conflict with certain local clinical care is still open. **Methods:** Pts with 1st relapsed OC after 6m+ platinum-free interval (PFI) were eligible if predicted to be a potential R0 by iMODEL score combined with PET-CT image and were randomized to SCR followed by chemotherapy (surgery arm) vs 2nd line chemotherapy alone (no surgery arm). Co-primary endpoint is PFS and OS. The 2nd endpoint is accumulated treatment-free survival (TFSa), which was defined as the overall survival time minus the time of surgery and chemotherapy after randomization. We report analysis of PFS and interim analysis of TFSa. **Results:** 357 pts were randomized 2012-2019. 6.3% of 175 pts were operated in no surgery arm and cross-over rate was 36.9% in 2nd+ relapsed pts of no surgery arm. 97% and 96% of pts received a platinum-containing 2nd line therapy. Complete resection (R0) rate was 76.7% in overall and 61.1% in pts with iMODEL$>$ 4.7. 60 d mortality rates were 0 % in both surgery and no surgery arm. Postoperative 30 d complication rate with $\geq$ grade 3 was 5.2%. The median follow-up was 36.0 m. Median PFS was 17.4 m and 11.9 m in surgery and no surgery arm, respectively (HR 0.58, 95% CI 0.45-0.74, $p < 0.001$). Median time to start of first subsequent therapy (TFST) was 18.1 m vs 13.6 m in favor of the surgery arm (HR 0.59, 95%CI 0.46-0.76). 1.1% and 10.1% of pts underwent Bevacizumab and PARPi maintenance in the 2nd line therapy. The OS and TFSa was immatured. The median TFSa was unreached and 39.5 m in R0 subgroup and no surgery arm, respectively (HR0.59, 95%CI 0.38-0.91). TFSa in surgery arm showed a better long-term survival than that in no surgery group (restricted mean survival time from 60 to 72m: 6.2m vs 4.2m). **Conclusions:** SCR in selected pts resulted in a dramatically significant extension of PFS. The interim analysis of TFSa indicate that SCR might contribute to long-term survival. Research Sponsor: Talent Funding from Zhongshan Hospital Fudan University (No. 016).

6002 **Oral Abstract Session, Fri, 8:00 AM-11:00 AM**

Final overall survival (OS) results from SOLO2/ENGOT-ov21: A phase III trial assessing maintenance olaparib in patients (pts) with platinum-sensitive, relapsed ovarian cancer and a BRCA mutation.

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Background: SOLO2 (ENGOT ov-21; NCT01874353) showed that maintenance therapy with the PARP inhibitor olaparib in pts with platinum-sensitive relapsed ovarian cancer (PSROC) and a BRCA mutation (BRCAm) led to a statistically significant improvement in median progression-free survival (PFS) of 13.6 months vs placebo (hazard ratio [HR] 0.30). Time to second progression or death significantly improved (Pujade-Lauraine *et al Lancet Oncol* 2017) and a quality-adjusted PFS benefit was seen (Friedlander *et al Lancet Oncol* 2018) with maintenance olaparib vs placebo. We report the preplanned final OS analysis for SOLO2. **Methods:** Pts with PSROC and a BRCAm who had received ≥2 lines of treatment and were in response to their most recent platinum-based chemotherapy received maintenance olaparib (300 mg bid tablets) or placebo. Pts were stratified by response to previous chemotherapy (complete vs partial) and length of platinum-free interval (>6–12 months vs >12 months). OS was a secondary endpoint. The only preplanned OS sensitivity analysis was an OS analysis in the Myriad germline BRCAm subset (Myriad BRAC *Analysis* test). **Results:** At final data cut-off (Feb 3, 2020), median follow-up was 65 months in both treatment arms. A long-term treatment benefit was seen with olaparib vs placebo with an OS HR of 0.74 (95% confidence interval [CI] 0.54–1.00) in the full analysis set (FAS; unadjusted for crossover; 38.4% of placebo pts crossed over to a PARP inhibitor) (Table). At 5 years: by Kaplan-Meier estimates, 28.3% of pts in the olaparib arm vs 12.8% of pts in the placebo arm were alive and had still not received subsequent treatment; 42.1% of olaparib pts vs 33.2% of placebo pts were alive. The long-term tolerability profile of olaparib was generally consistent with that reported previously. **Conclusions:** In the final analysis of SOLO2, maintenance olaparib provided an unprecedented improvement of 12.9 months in median OS vs placebo. This is the first study with olaparib tablets, and the first since Study 19 (NCT00753545), to provide long-term follow-up and final OS data in pts with PSROC and a BRCAm. Clinical trial information: NCT01874353. Research Sponsor: AstraZeneca and Merck Sharp & Dohme Corp, a subsidiary of Merck & Co, Inc, Kenilworth, NJ, USA.

	Olaparib N=196*	Placebo N=99
Cumulative exposure of ≥5 years, n (%)	43 (22.1)	9 (9.1)
OS events, n (%)	116 (59.2)	65 (65.7)
Median OS, months	51.7	38.8
HR (95% CI)	0.74 (0.54–1.00)	
***P* value**	0.0537	
OS events in Myriad germline BRCAm subset, n (%)	111/190 (58.4)	64/96 (66.7)
Median OS, months	52.4	37.4
HR (95% CI)	0.71 (0.52–0.97)	
***P* value**	0.0306	

*Of 196 pts randomized to olaparib (FAS), 195 received treatment

6003 **Oral Abstract Session, Fri, 8:00 AM-11:00 AM**

A phase III study comparing single-agent olaparib or the combination of cediranib and olaparib to standard platinum-based chemotherapy in recurrent platinum-sensitive ovarian cancer.

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Background: Combination cediranib (C) and olaparib (O) improved progression-free survival (PFS) in patients (pts) with relapsed platinum (plat)-sensitive high-grade ovarian cancer (ovca) compared to O alone in a Phase 2 trial (NCT01116648). We conducted this randomized, open-label Phase 3 trial (NCT02446600) to assess whether combination C+O, or O alone, was superior to standard of care (SOC) plat-based therapy in relapsed plat-sensitive ovca. **Methods:** Eligible pts had recurrent plat-sensitive [$>$ 6-month plat-free interval (PFI)] high-grade serous or endometrioid, or BRCA-related, ovca. One prior non-plat therapy and unlimited prior plat-therapies were allowed; prior anti-angiogenics in the recurrent setting or prior PARP inhibitor were exclusions. Pts were randomized 1:1:1 to SOC (carboplatin/paclitaxel; carboplatin/gemcitabine; or carboplatin/liposomal doxorubicin), O (300mg twice daily), or C+O (C 30mg daily + O 200mg twice daily). Randomization was stratified by g*BRCA* status, PFI (6-12 vs $>$ 12 months), and prior anti-angiogenic therapy. Target sample size was 549 pts; primary analysis occurred 2 years after the last pt enrolled. The primary endpoint was PFS. Type 1 error = 0.025 was controlled by a gatekeeping hierarchy that assessed C+O vs SOC, then O alone vs SOC, and finally C+O vs O. All maintenance therapy was prohibited. **Results:** Between 4FEB2016 and 13NOV2017, 565 pts enrolled (187 SOC, 189 O, 189 C+O), and 528 pts initiated treatment (166 SOC, 183 O, 179 C+O). 23.7% of patients had g*BRCA*mut. Median follow-up was 29.1 months. 53 pts on SOC initiated non-protocol therapy (predominantly PARP inhibitor maintenance) before disease progression. The hazard ratio (HR) for PFS was 0.856 (95% CI 0.66-1.11, p = 0.08, 1-tail) between C+O and SOC and 1.20 (95% CI 0.93-1.54) between O and SOC, with median PFS of 10.3, 8.2, and 10.4 months for SOC, O, and C+O, respectively. Response rates were 71.3% (SOC), 52.4% (O), and 69.4% (C+O). In *gBRCA* pts, HR for PFS was 0.55 (95% CI 0.73-1.30) for C+O vs SOC, and 0.63 (95% CI 0.37-1.07) for O vs SOC. In non-g*BRCA* pts, HR for these comparisons was 0.97 (95% CI 0.73-1.30) and 1.41 (1.07-1.86). No OS differences between arms were observed at 44% events. Pts receiving C+O (vs SOC) had more frequent Grade 3 or higher gastrointestinal (30.1% vs 8.4%), hypertension (31.7% vs 1.8%), and fatigue events (17.5% vs 1.8%). **Conclusion:** C+O demonstrated similar activity to SOC in relapsed plat-sensitive ovca but did not meet the primary endpoint of improved PFS. Clinical trial information: NCT02446600. Research Sponsor: U.S. National Institutes of Health.

6004 **Oral Abstract Session, Fri, 8:00 AM-11:00 AM**

Mirvetuximab soravtansine, a folate receptor alpha (FRα)-targeting antibody-drug conjugate (ADC), in combination with bevacizumab in patients (pts) with platinum-agnostic ovarian cancer.

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Background: Mirvetuximab soravtansine (MIRV) is an ADC comprising a FRα-binding antibody, cleavable linker, and the maytansinoid DM4, a potent tubulin-targeting agent. As part of the Phase 1b FORWARD II trial (NCT02606305), the combination of MIRV with bevacizumab (BEV) was evaluated in pts with FRα-positive (medium/high expression; ≥ 50%/ ≥75% of cells with PS2+ staining intensity), platinum agnostic ovarian cancer, defined as pts with either platinum resistant (PR) (recurrence within 6 months after last platinum dose) or platinum sensitive (PS) responded to the last platinum therapy received before study entry and did not progress within 6 months) disease for whom a non-platinum based doublet would be appropriate. **Methods:** Pts received MIRV (6 mg/kg; adjusted ideal body weight) and BEV (15 mg/kg) on Day 1 of a 21-day cycle. Responses were assessed by investigator according to RECIST 1.1 and adverse events (AEs) evaluated by CTCAE v4.03. **Results:** In total, 60 pts received the combination, with a median age of 60 years, and a median of 2 prior lines of systemic therapy (range 1-4). Platinum status was determined for 56 pts, with 30 (50%) considered PR and 26 (43%) considered PS; platinum status data were incomplete for 4 pts. The most common treatment related AEs (percent all grade/grade 3+) were diarrhea (65/2), blurred vision (62/3), nausea (55/0), and fatigue (55/5). The most common treatment related grade 3+ AEs were hypertension and neutropenia, (10% each); all other grade 3+ events occurred in ≤ 5% of pts. Serious AEs regardless of relationship to study drug were infrequent, with the most common events being small intestinal obstruction in 3 pts, 5% (grade 3) and pneumonitis in 3 pts, 5% (2 grade 1; 1 grade 2). Objective responses were seen in 26 pts for a confirmed overall response rate (ORR) of 43% (95% CI, 31, 57). In a subset analysis of pts with high FRα expressing tumors (n = 33), the confirmed ORR was 61% (95% CI, 42, 77), with an ORR of at least 50% in each of the PR and PS subsets. With a median follow-up of 5.5 months, the duration of response and progression free survival data are immature. **Conclusions:** The combination of MIRV with BEV demonstrates an encouraging ORR with a favorable tolerability profile in pts with recurrent ovarian cancer regardless of platinum sensitivity, particularly in those with tumors that express high levels of FRα. Clinical trial information: NCT02606305. Research Sponsor: ImmunoGen.

6005 Oral Abstract Session, Fri, 8:00 AM-11:00 AM

Final results from the KEYNOTE-100 trial of pembrolizumab in patients with advanced recurrent ovarian cancer.

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Background: Pembrolizumab (pembro) showed modest clinical activity in patients (pts) with recurrent advanced ovarian cancer (AOC) after a median follow-up of 16.9 mo in an interim analysis of KEYNOTE-100 (NCT02674061). We present the protocol-specified final analysis based on a data cutoff of 18-SEP-2019. **Methods:** Key eligibility criteria included epithelial ovarian, fallopian tube, or primary peritoneal cancer, confirmed recurrence following front-line platinum-based therapy, ECOG PS 0-1, and provision of a tumor sample for biomarker analysis. Pts in cohort A received ≤2 prior chemotherapy lines for recurrent AOC and had a platinum-free or treatment-free interval (PFI/TFI) of ≥3 to 12 mo. Pts in cohort B received 3-5 prior chemotherapy lines and had a PFI/TFI of ≥3 mo. Pts received pembro 200 mg Q3W for 2 yr or until progression, death, or unacceptable toxicity. Tumor imaging was performed every 9 wk for 1 yr and every 12 wk thereafter. Primary study endpoint was ORR per RECIST v1.1 by independent central review in both cohorts and by tumor PD-L1 expression using the combined positive score (CPS). Secondary endpoints included DOR, DCR (CR+PR+SD≥24 wk), PFS, OS, and safety. **Results:** 376 pts were enrolled and treated, 285 in cohort A and 91 in cohort B. Median age (range) was 61 (25 to 89) yr, 64.4% had ECOG PS 0, and 75.3% had high grade serous disease. In cohorts A and B, ORR (95% CI) was 8.1% (5.2, 11.9) and 9.9% (4.6, 17.9) in the total population, 6.9% (2.8, 13.8) and 10.2% (3.4, 22.2) in pts with CPS ≥1, and 11.6% (3.9, 25.1) and 18.2% (5.2, 40.3) in pts with CPS ≥10. Median DOR (range) was 8.3 (3.9 to 35.4+) mo in cohort A and 23.6 (3.3+ to 32.8+) mo in cohort B. DCR (95% CI) was 22.1% (17.4, 27.4) and 22.0% (14.0, 31.9). Median PFS was 2.1 mo in both cohorts. In cohorts A and B, median OS was 18.7 mo (17.0, 22.5) and 17.6 mo (13.3, 24.4) in the total population, 20.6 mo (15.2, 23.2) and 20.7 mo (13.6, 27.4) in pts with CPS ≥1, and 21.9 mo (12.9, 26.8) and 24.0 mo (14.5, NR) in pts with CPS ≥10. 73.7% of pts had treatment-related AEs and 20.2% were grades 3-4. There were 2 treatment-related deaths (Stevens-Johnson syndrome and hypoaldosteronism). Immune-mediated AEs occurred in 23.7% of pts. **Conclusions:** Pembro monotherapy was associated with modest antitumor activity in pts with recurrent AOC. There appeared to be a trend toward increased ORR with higher PD-L1 expression in both cohorts. Responses were durable and typically lasted ≥6 months. Median OS was 18.7 months overall, with a trend toward a longer OS with increasing PD-L1 expression in both cohorts. No new safety signals were identified. Clinical trial information: NCT02674061. Research Sponsor: Merck & Co., Inc.

6006 **Oral Abstract Session, Fri, 8:00 AM-11:00 AM**

Long-term oncological safety of sentinel lymph node biopsy in early-stage cervical cancer.

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Background: The goal of this study was to assess disease-free survival (DFS) and disease-specific survival (DSS) in patients with early-stage cervical cancer who underwent bilateral sentinel lymph node (BSLN) biopsy alone versus bilateral pelvic lymphadenectomy (BPL). **Methods:** An ancillary analysis of two prospective multicentric trials on SLN biopsy for cervical cancer (SENTICOL I and II) was performed. All patients with early stage cervical cancer (IA to IIB FIGO stage), negative SLN after ultrastaging and negative non-SLN after final pathologic examination were included. Risk-factors of recurrency and disease-specific deaths were determined by Cox proportional hazard models. Kaplan-Meier survival curves were compared by applying log-rank test. **Results:** Between January 2005 and July 2012, 259 patients met the inclusion criteria: 85 patients underwent only bilateral SLN biopsy whereas 174 patients underwent BPL. None had positive SLN at ultrastaging or positive non-SLN at final pathologic examination. Between the both groups, there was no differences in histology, final FIGO stage and type of surgical approach. In the BPL group, patients had more frequently tumor size larger than 20 mm (22.9% vs 10.7%, p = 0.02) and postoperative radiochemotherapy (10.7% vs 1.6%, p = 0.01). The median follow-up was 47 months (4-127). During the follow-up, 21 patients (8.1%) experienced reccurencies, including 4 nodal recurrences (1.9%), and 9 patients (3.5%) died of cervical cancer. The 5-year DFS and the DSS were similar between BSLN and BPL groups, 94.1% vs 97.7%, p = 0.14 and 88.2% vs 93.7%, p = 0.14 respectively. After controlling for final FIGO stage and margin status, BSLN compared to BPL was not associated with DFS (HR = 1.76, 95%CI = [0.69 – 4.53], p = 0.24) and DSS (HR = 2.5, 95%CI = [0.64 – 9.83], p = 0.19). Only final FIGO stage was independent predictor of DSS. **Conclusions:** SLN biopsy alone is oncologically safe in early-stage cervical cancer. Full lymphadenectomy could be omitted in case of bilateral negative SLN. Worse prognosis was associated with higher FIGO stage disease. Research Sponsor: None.

6007 **Oral Abstract Session, Fri, 8:00 AM-11:00 AM**

Sequential chemoradiation versus radiation alone or concurrent chemoradiation in adjuvant treatment after radical hysterectomy for stage IB1-IIA2 cervical cancer (STARS Study): A randomized, controlled, open-label, phase III trial.

He Huang, Yanling Feng, Ting Wan, Yanna Zhang, Xinping Cao, Yongwen Huang, Ying Xiong, Xin Huang, Min Zheng, Yanfang Li, Jundong Li, Guandi Chen, Hu Li, Yile Chen, Liguo Ma, Hongying Yang, Li Li, Shuzhong Yao, Qing Liu, Jihong Liu; Sun Yat-sen University Cancer Center, Guangzhou, China; State Key Laboratory of Oncology in South China, Collaborative Innovation Center for Cancer Medicine, Department of Gynecologic Oncology, Sun Yat-sen University Cancer Center, Guangzhou, China; Sun Yat-sen University cancer center, Guangzhou, China; Guangdong Provincial People's Hospital, Guangzhou, China; Guangzhou Panyu Central Hospital, Guangzhou, PA, China; Hunan Cancer Hospital, Chang Sha, China; Shenzhen People's Hospital, Shenzhen, China; Yunnan Cancer Hospital, Yunnan, China; Guangxi Medical University Cancer Center, Nan Ning, China; The First Affiliated Hospital of Sun Yat-sen University, Guang Zhou, China; Department of Medical Statistics and Epidemiology, School of Public Health, Sun Yat-sen University, Guangzhou, China

Background: There are limited data from previous studies regarding whether the addition of chemotherapy to adjuvant radiation after radical surgery improves outcomes among patients with early-stage cervical cancer and adverse pathological factors. **Methods:** This was a prospective randomized trial including patients with FIGO 2009 stage IB1-IIA2 cervical cancer and squamous-cell, adenocarcinoma, or adenosquamous carcinoma with at least one adverse factor after radical hysterectomy. Patients were randomized 1:1:1 to receive adjuvant radiation alone, concurrent chemoradiation with weekly cisplatin (30-40 mg/m^2), or sequential chemoradiation with cisplatin (60-75 mg/m^2) plus paclitaxel (135-175 mg/m^2) in 21 day cycles, given 2 cycles before and 2 cycles after radiotherapy respectively. The primary outcome was the rate of disease-free survival at 3 years. **Results:** A total of 1,048 patients were included in the study (350, radiation alone; 345, concurrent chemoradiation; and 353, sequential chemoradiation). Overall, the median follow-up was 56 months and the median age of patients was 48 years. Most patients (75%) had stage IB1 or IIA1 disease. The three groups were similar with respect to histologic subtypes, the rate of lymphovascular invasion, parametrial, surgical margin and deep stromal involvement, tumor grade, rate of use of minimally invasive surgery, and neoadjuvant chemotherapy, except for lymph-node involvement that was lowest in radiation alone arm. In the intention-to-treat population, sequential chemoradiation was associated with a higher rate of disease-free survival than radiation alone (3-year rate, 90·0% vs. 82·0%; HR 0·52; 95% CI, 0·35 to 0·76) and concurrent chemoradiation (90·0% vs. 85·0%; HR 0·65; 95% CI, 0·44 to 0·96), differences remained after adjustment for lymph-node involvement. Sequential chemoradiation was also associated with a higher rate of overall survival than radiation alone (5-year rate, 92·0% vs. 88·0%; HR for death from cancer, 0·58; 95% CI, 0·35 to 0·95). However, neither disease-free survival nor cancer death risk was different between patients treated with concurrent chemoradiation or radiation alone. **Conclusions:** In this trial, sequential chemoradiation, rather than concurrent chemoradiation, resulted in a higher disease-free survival and lower risk of cancer death than radiation alone among women with early-stage cervical cancer after radical surgery. Clinical trial information: NCT00806117. Research Sponsor: Sun Yat-sen University Clinical Research 5010 Program.

LBA6008 **Oral Abstract Session, Fri, 8:00 AM-11:00 AM**

Avelumab in patients with gestational trophoblastic tumors resistant to mono-chemotherapy: Final outcomes of TROPHIMMUN phase II trial, cohort A.

Benoit You, Pierre-Adrien Bolze, Jean-Pierre Lotz, Jerome Massardier, Laurence Gladieff, Florence Joly, Touria Hajri, Delphine Maucort-Boulch, Sylvie Bin, Pascal Rousset, Laurent Villeneuve, Adeline Roux, Marine Alves-Ferreira, Daniele Grazziotin, Catherine Mercier, Gilles Freyer, Francois Golfier; Institut de Cancérologie des Hospices Civils de Lyon (IC-HCL), CITOHL, EMR UCBL/HCL 3738, Lyon, GINECO & GINEGEPS, Lyon, France; Centre de Référence des Maladies Trophoblastiques, Hospices Civils de Lyon, Lyon, France; Hôpital Tenon, Paris, France; GINECO, Institut Claudius Regaud, Toulouse, France; Department of Medical Oncology, Centre François Baclesse, Caen, France; Centre de Reference des Maladies Trophoblastiques, Lyon, France; Hospices Civils de Lyon, Lyon, France; Hospice Civils Lyon Unite Rechercher Clinique Pole Information Medicale, Lyon, France; APREC, Hospital Tenon (AP-HP), Paris, France; Centre Hospitalier Lyon-Sud, Pierre-Bénite, France; Centre de Reference des Maladies Trophoblastiques, Centre Hospitalier Lyon-Sud, EMR3738, Université Lyon 1, Lyon, France

The full, final text of this abstract will be available at abstracts.asco.org at 5:00 p.m. ET on Thursday, May 28.

6009 **Clinical Science Symposium, Fri, 8:00 AM-9:30 AM**

A phase II trial of the Wee1 inhibitor adavosertib (AZD1775) in recurrent uterine serous carcinoma.

Joyce F. Liu, Niya Xiong, Susana M. Campos, Alexi A. Wright, Carolyn N. Krasner, Susan T. Schumer, Neil S. Horowitz, Jennifer Taylor Veneris, Nabihah Tayob, Stephanie Morrissey, Gabriela West, Roxanne Quinn, Ursula A. Matulonis, Panagiotis A. Konstantinopoulos; Dana-Farber Cancer Institute, Boston, MA; Brigham and Women's Hospital and Dana-Farber Cancer Institute, Boston, MA

Background: Uterine serous carcinoma (USC) is an aggressive subtype of endometrial carcinoma characterized by TP53 mutations ($>$ 90%), often concomitantly with oncogenic mutations or amplifications that can increase replication stress. As such, USC may therefore be uniquely sensitive to further interference of cell cycle regulation by Wee1 inhibition. This two-stage single arm Phase 2 study was conducted to assess the activity of the Wee1 inhibitor adavosertib as monotherapy in recurrent USC. **Methods:** Women with recurrent USC (defined as non-carcinosarcoma uterine cancers with any serous component) were eligible. Patients (pts) were required to have had at least one prior platinum-based chemotherapy regimen; those with known MSI-H/MMRd disease were required to have received prior PD1/PDL1 therapy or to be ineligible for such therapy. There was no upper limit on the number of prior lines pts could have received. All pts were required to have RECIST measurable disease. Pts received adavosertib 300mg daily on days 1 through 5 and 8 through 12 of a 21-day cycle. Coprimary endpoints were objective response and progression-free survival at 6 months (PFS6). **Results:** Between OCT-11-2018 and SEP-30-2019, 35 pts enrolled on study. Median follow-up is 4.6 months. The median number of prior lines was 3 (range 1-8). 34 pts were considered evaluable for response. In these pts, 9 confirmed and 1 unconfirmed responses were observed, for an ORR of 29.4% (95% CI 15.1-47.5%). The PFS at 6 months was 58.7% (95% CI: 39.5-73.7%). The median PFS is 6.1 months and the median duration of response is 9.0 months. Frequently observed Grade 3 or higher related adverse events included neutropenia (32.3%), anemia (20.6%), and fatigue (23.5%). Immunohistochemistry and targeted next-generation sequencing were performed to investigate potential biomarkers of response. **Conclusions:** Adavosertib monotherapy demonstrates promising clinical activity in women with USC. The observed monotherapy activity is higher than in other diseases, and additional exploration of the biology of Wee1 inhibition in USC is needed. Further studies of adavosertib in this patient population are planned. Clinical trial information: NCT03668340. Research Sponsor: AstraZeneca.

6010 Clinical Science Symposium, Fri, 8:00 AM-9:30 AM

A randomized phase II study of cabozantinib and nivolumab versus nivolumab in recurrent endometrial cancer.

Stephanie Lheureux, Daniela Matei, Panagiotis A. Konstantinopoulos, Matthew Stephen Block, Andrea Jewell, Stephanie Gaillard, Michael S. McHale, Carolyn K McCourt, Sarah Temkin, Eugenia Girda, Floor Jenniskens Backes, Theresa Louise Werner, Linda R. Duska, Siobhan Marie Kehoe, Lisa Wang, Rachel Wildman, Ben X Wang, Pamela S Ohashi, John Joseph Wright, Gini F. Fleming; Princess Margaret Hospital, Toronto, ON, Canada; Indiana University Melvin and Bren Simon Cancer Center, Indianapolis, IN; Dana-Farber Cancer Institute, Boston, MA; Mayo Clinic, Rochester, MN; Univ of Chicago, Chicago, IL; Johns Hopkins School of Medicine, Baltimore, MD; McHale Inst Cancer and Hem Treatmt, Sioux Falls, SD; Washington University School of Medicine in St. Louis, St. Louis, MO; Virginia Commonwealth University, Richmond; Rutgers Cancer Institute of New Jersey, New Brunswick, NJ; Ohio State University, Columbus, OH; University of Utah, Salt Lake City, UT; University of Virginia, Charlottesville, VA; The University of Texas Southwestern Medical Center, Dallas, TX; Department of Biostatistics, Princess Margaret Cancer Centre, Toronto, ON, Canada; Princess Margaret Cancer Centre, Toronto, ON, Canada; Princess Margaret-University Health Network, Toronto, ON, Canada; IDB CTEP NCI, Falls Church, VA; University of Chicago Medicine, Chicago, IL

Background: The efficacy of treatment for recurrent endometrial cancer (EC) remains limited. Vascular endothelial growth factor and inflammatory chemokines are proangiogenic factors and immune modulators involved in immune suppression. Reprogramming the tumor microenvironment by combining antiangiogenic and immunotherapy (IO) could enhance antitumor responses. **Methods:** A 2:1 randomized phase 2 trial compared the combination of cabozantinib and nivolumab (Arm A) versus nivolumab (Arm B) in recurrent EC. Primary endpoint was progression free survival (PFS) assessed by RECIST 1.1 (NCT03367741). Women with recurrent measurable EC were eligible. There were no limits on prior therapy, but at least one prior platinum-based chemotherapy was required. Patients (pts) were stratified according to MSI status and assessed by CT every 8 weeks. Cabozantinib was given at 40 mg daily (Arm A) and nivolumab at 240 mg, on D1 and D15 of a 28-day cycle for 4 cycles, followed by 480 mg every 4 weeks (Arms A & B). Pts with carcinosarcoma or prior IO were enrolled in an exploratory cohort and received combination treatment (Arm C). A baseline biopsy was required for all pts. CyTOF analysis was performed on fresh biopsies. **Results:** 76 evaluable pts were enrolled (Arm A: 36, Arm B: 18, Arm C: 9 carcinosarcoma, and 20 post IO including 7 pts crossed over from Arm B). 55% of pts had received $\geq$3 prior lines of therapy. Two pts were MSI high in Arm A and none in Arm B. The Kaplan-Meier estimated median PFS was 5.3 (95% CI: 3.5-9.5) months in Arm A and 1.9 (95% CI: 1.6-3.8) months in Arm B, with a log-rank $p = 0.07$, which met the significance level of 0.1 used for sample size calculation. Objective response rate (ORR) was 25% for Arm A and 16.7% for Arm B; stable disease (SD) was seen in 44.4% *vs* 11.1%, respectively. Clinical benefit (ORR+SD) was significantly higher in arm A *vs* B ($p < 0.001$). In Arm C-carcinosarcoma, one patient had a partial response (11.9 months duration) and four SD. In Arm C-prior IO, six pts responded and eight had SD. The most common related AEs in Arm A were diarrhea (47.2%), elevated liver enzymes (44.4%), fatigue (38.9%), anorexia, hypertension, and nausea (30.6%), mainly grade 1/2. Preliminary CyTOF analysis across treatment arms identified multiple immune subsets for further interrogation including activated CD8+ and CD4+ T cells. **Conclusions:** Cabozantinib plus nivolumab demonstrates improved PFS compared to nivolumab in heavily pre-treated women with recurrent EC. In-depth CyTOF analysis of the tumor microenvironment to identify predictive immune biomarkers of response is ongoing. Clinical trial information: NCT03367741. Research Sponsor: U.S. National Institutes of Health, Conquer Cancer Foundation of the American Society of Clinical Oncology.

6011 **Clinical Science Symposium, Fri, 8:00 AM-9:30 AM**

Impact of chemotherapy alone or in combination with an anti-angiogenic on the immune tumor microenvironment (TME) of ovarian cancer: Data from the randomized CHIVA trial (a GINECO –GINEGEPS study).

Elisa Yaniz, Catherine Genestie, Christophe Klein, Flore Salviat, Isabelle Laure Ray-Coquard, Florence Joly, Gwenael Ferron, Eric Pujade-Lauraine, Patricia Pautier, Alexandra Leary; Gustave Roussy Cancer center, INSERM U981, Villejuif, France; Gustave Roussy Cancer Center, INSERM U981, Villejuif, France; Centre De Recherche Des Cordeliers, Paris, France; Gustave Roussy Institute, Villejuif, France; GINECO Group and Centre Léon Bérard, Lyon, France; Department of Medical Oncology, Centre François Baclesse, Caen, France; GINECO and Institut Claudius Regaud, Toulouse, France; GINECO and Université Paris Descartes, AP-HP, Paris, France; GINECO, French Sarcoma Group and Gustave Roussy Cancer Center, Villejuif, France; Gustave Roussy Cancer Center, Villejuif, France

Background: The neoadjuvant setting is an excellent opportunity to study '*in vivo*' the biological impact of treatment on tumor cells and the immune TME. Both chemotherapy and anti-angiogenics may have immunomodulatory properties which could prime the TME and increase effectiveness of immunotherapeutic agents. We performed comprehensive multiplexed immune biomarker analyses on paired tumor samples at diagnosis and after 3 cycles of neoadjuvant carboplatin+paclitaxel (CP) +/- the anti-angiogenic tyrosine kinase inhibitor nintedanib (N) in the randomized CHIVA trial. **Methods:** Patients were randomized 2:1 to CP + N or placebo for 3 cycles prior to interval debulking, samples were evaluable for immune profiling for 124 pts at diagnosis and 107 at surgery from the CHIVA trial. For 86 patients matched paired samples were available. Multiplexed IF or IHC panels were performed for CD4, CD3, CD8, CK, Granzyme B, FOXP3, CD68, CD163 and DC-Lamp. Wilcoxon tests were used to compare measurements. **Results:** At diagnosis the most abundant cells were CD8+ and CD4+ cells (median=118 and 119cells/mm2, respectively) compared to Foxp3+ TRegs (median=30/mm2). Among the myeloid lineage, the proportion of CD68+ (M1) and CD163+ (M2) macrophages was balanced, while mature dentritic cells (DC) represented $<5\%$ of myeloid cells. In the whole population, regardless of arm, neoadjuvant platinum-based treatment significantly increased CD4+ (p=0.03) and CD8+ infiltration (p=0.009), decreased FOXP3+ cells (p=0.01), and these differences pre- and post-treatment remained significant when analysis was restricted to pts with paired samples. Mature DC also increased significantly with neoadjuvant treatment (p=0.0003), there was no significant modification in CD68+ or CD163+ macrophages. Changes in immune parameters did not differ significantly between the CP+B vs CP+placebo arms. **Conclusions:** Neoadjuvant treatment has a profound impact on the immune cell composition of the TME in advanced OC. However this change seems to be mainly mediated by platinum+paclitaxel chemotherapy rather than the anti-angiogenic tyrosine kinase inhibitor nintedanib. Research Sponsor: Maria Pia Award.

6012 Poster Discussion Session; Displayed in Poster Session (Board #183), Fri, 8:00 AM-11:00 AM, Discussed in Poster Discussion Session, Fri, 8:00 AM-11:00 AM

Final survival analysis of NSGO-AVANOVA2/ENGOT-OV24: Combination of niraparib and bevacizumab versus niraparib alone as treatment of recurrent platinum-sensitive ovarian cancer—A randomized controlled chemotherapy-free study.

Mansoor Raza Mirza, Gitte-Betina Nyvang, Bente Lund, Rene dePont Christensen, Theresa Louise Werner, Susanne Malander, Line Bjørge, Michael J. Birrer, Maarit Anttila, Gabriel Lindahl, Sakari Hietanen, Maria Dimoula, Ulla Peen, Kristine Madsen, Anja Knudsen, Synnove Staff, Nicole Buchner Vinum, Maj Kamille Kjeldsen, Elisabeth Avall-Lundqvist, Johanna Unelma Maenpaa; The Finsen Centre 5073, Copenhagen, Denmark; Odense University Hospital, Odense, Denmark; Department of Oncology, Aalborg Universitetshospital, Aalborg, Denmark; Research Unit of General Practice, Institute of Public Health, University of Southern Denmark, Odense, Denmark; University of Utah, Salt Lake City, UT; Nordic Society of Gynecologic Oncology (NSGO) and Lund University Hospital, Lund, Sweden; Haukeland University Hospital, Bergen, Norway; The University of Alabama at Birmingham, Birmingham, AL; NSGO and Kuopio University Hospital, Kuopio, Finland; Department of Oncology, Linkoping University Hospital, Linköping, Sweden; Turku University Hospital, Turku, Finland; Sahlgrenska University Hospital, Göteborg, Sweden; University Hospital of Herev, Rungsted, Denmark; Rigshospitalet, Copenhagen, Denmark; Tampere University Hospital, Tampere, Finland; Nordic Society of Gynaecological Oncology (NSGO), Copenhagen, Denmark; NSGO & Linköping University and Karolinska Institute, Linköping, Sweden; NSGO and Tampere University Hospital, Department of Obstetrics and Gynecology, Tampere, Finland

Background: We previously reported significantly improved progression-free survival (PFS) with the chemotherapy-free regimen of niraparib and bevacizumab compared to niraparib alone, in women with platinum-sensitive relapsed ovarian cancer (PSROC), regardless of homologous recombination deficiency (HRD) status (MyChoice HRD), duration of chemotherapy-free interval (CFI) and number of previous lines of therapy (Mirza MR et al, Lancet Oncol 2019). We now present the updated PFS, overall survival (OS) and other efficacy and safety endpoints. **Methods:** In this randomized, open-label, phase 2 study, women with measurable/evaluable, high-grade serous or endometrioid PSROC were randomized to niraparib 300mg once daily or the combination of niraparib 300mg once daily and bevacizumab 15mg/kg IV every 3 weeks until disease progression (1:1 randomization). The primary endpoint was PFS. Stratification was according to HRD status and CFI (6-12months (mo) vs. $>$ 12mo). First-line maintenance bevacizumab was permitted. **Results:** Of 97 enrolled patients, 48 were randomized to niraparib monotherapy and 49 to the chemotherapy-free combination. The combined treatment significantly improved PFS compared to niraparib alone: updated median PFS 12.5 mo vs. 5.5 mo; hazard ratio (HR) adjusted for stratification factors 0.34; 95% confidence interval (CI) [0.21 to 0.55]; $P < 0.0001$. Preplanned exploratory subgroup analyses: patients with HRD-positive tumors (n = 54) HR 0.41 (CI, 0.23-0.76); HRD-negative disease (n = 43) HR, 0.40 (CI, 0.20-0.79); Time to First Subsequent Therapy (TFST) (n=97) HR, 0.4 (CI, 0.25-0.64); PFS2 (n=97) HR 0.55 (CI, 0.35-0.88); Time to Second Subsequent Therapy (TSST) (n=97) HR, 0.56 (CI, 0.35-0.90); OS (49 events only) HR, 0.77 (CI, 0.42-1.41). There was no difference in treatment-emergent grade 3-4 adverse events except for the rate of hypertension (22.9% vs. 0%) and neutropenia (8.3% vs. 2.0%). Patient-reported outcomes measured using EORTC QLQ-C30 and OV28 were similar for both treatment arms. **Conclusions:** Updated PFS consistently demonstrates that the niraparib-bevacizumab combination had clinically and statistically meaningful activity in PSROC. This phase 2 study was not powered to detect differences in OS or any other efficacy endpoints however TFST, PFS2 & TSST are significantly improved while there is a trend towards OS improvement with niraparib-bevacizumab combination. Clinical trial information: NCT02354131. Research Sponsor: research grant + niraparib from Tesaro Inc for this Invest. Initiated Trial (sponsor Nordic Society of Gynaecological Oncology NSGO).

6013 Poster Discussion Session; Displayed in Poster Session (Board #184), Fri, 8:00 AM-11:00 AM, Discussed in Poster Discussion Session, Fri, 8:00 AM-11:00 AM

Olaparib treatment in patients (pts) with platinum-sensitive relapsed (PSR) ovarian cancer (OC) by BRCA mutation (BRCAm) and homologous recombination deficiency (HRD) status: Phase II LIGHT study.

Karen Anne Cadoo, Fiona Simpkins, Cara Amanda Mathews, Nashwa Kabil, James Bennett, Carol Aghajanian; Memorial Sloan Kettering Cancer Center, New York, NY; Department of Obstetrics and Gynecology, Jordan Center for Gynecologic Oncology at the Abramson Cancer Center, University of Pennsylvania, Philadelphia, PA; Program in Women's Oncology, Department of Obstetrics and Gynecology, Women and Infants Hospital, Brown University, Providence, RI; AstraZeneca, Gaithersburg, MD; AstraZeneca, Cambridge, United Kingdom

Background: In Study 19 (NCT00753545), olaparib capsules demonstrated improvement in progression-free survival (PFS) vs placebo in the PSR OC maintenance setting, irrespective of BRCAm status (Ledermann *et al. Lancet Oncol* 2014). LIGHT is the first prospective study to evaluate olaparib tablet treatment in PSR OC pts by BRCAm and HRD status. **Methods:** This is an open-label, non-randomized study (NCT02983799) that assessed efficacy and safety of olaparib monotherapy (300 mg BID) in pts with PSR, high-grade serous/endometrioid epithelial OC and ≥1 prior line of platinum chemotherapy. Pts were assigned to one of four cohorts: germline (g) BRCAm; somatic (s) BRCAm; HRD+ve (non-BRCAm); HRD–ve; by Myriad BRACAnalysis CDx and myChoice tests. HRD+ve was a score ≥42. Primary endpoint was objective response rate (ORR). Secondary endpoints included: disease control rate (DCR) and investigator-assessed PFS (RECIST v1.1). Primary analysis was to be ~6 months (mo) after the last pt was enrolled. **Results:** Data cut off was 8/27/19. Of 271 pts treated (median of 31.7 weeks [2.1–96.0]), 270 had measurable disease at baseline and were included in efficacy analyses (Table). The most common treatment-emergent adverse events (AEs) were nausea (66%) and fatigue (62%).Serious AEs and Grade ≥3 AEs were experienced by 25% and 44% of pts, respectively. AEs leading to olaparib dose interruptions, reductions and discontinuations occurred in 33%, 24% and 4% of pts, respectively. **Conclusions:** Olaparib treatment demonstrated activity across all cohorts. As observed in the maintenance setting, similar efficacy was seen in the gBRCAm and sBRCAm cohorts. For non-BRCAm pts, longer median PFS and higher ORR were observed in the HRD+ve cohort. Olaparib treatment was well tolerated with no new safety signals identified and a safety profile consistent with that seen in the PSR and first-line settings. Clinical trial information: NCT02983799. Research Sponsor: AstraZeneca Pharmaceuticals LP.

	gBRCAm (N=75)	sBRCAm (N=25)	HRD+ve (non-BRCAm) (N=68)	HRD–ve (N=89)	Overall population (N=270)*
≥2 prior lines of chemotherapy, n (%)	35 (47)	14 (56)	37 (54)	60 (67)	152 (56)
ORR, n (%)	52 (69)	16 (64)	20 (29)	9 (10)	101 (37)
95% CI	58–80	43–82	19–42	5–18	32–44
DCR, n (%)	72 (96)	25 (100)	54 (79)	67 (75)	230 (85)
95% CI	89–99	86–100	68–88	65–84	80–89
PFS events, n (%)	38 (51)	15 (60)	49 (72)	76 (85)	187 (69)
Median PFS, mo	11.0	10.8	7.2	5.4	7.4
95% CI	8.3–12.2	7.3–NE	5.3–7.6	3.7–5.6	6.4–7.9

*13 pts with a Myriad test result of failed or missing were included in the overall population. CI, confidence interval; NE, not estimable

6014 Poster Discussion Session; Displayed in Poster Session (Board #185), Fri, 8:00 AM-11:00 AM, Discussed in Poster Discussion Session, Fri, 8:00 AM-11:00 AM

Concordance between CA-125 and RECIST progression (PD) in patients with germline BRCA-mutated platinum-sensitive, relapsed ovarian cancer treated with a PARP inhibitor (PARPi) as maintenance therapy after response to chemotherapy.

Angelina Tjokrowidjaja, Chee Khoon Lee, Michael Friedlander, Val Gebski, Laurence Gladieff, Jonathan A. Ledermann, Richard T. Penson, Amit M. Oza, Jacob Korach, Tomasz Huzarski, Luis Manso, Carmela Pisano, Rebecca Asher, Nicoletta Colombo, Tjoung-Won Park-Simon, Keiichi Fujiwara, Gabe S. Sonke, Ignace Vergote, Jae-Weon Kim, Eric Pujade-Lauraine; NHMRC Clinical Trials Centre, Camperdown, NSW, Australia; NHMRC Clinical Trials Centre, The University of Sydney, Camperdown, NSW, Australia; The Prince of Wales Hospital, Randwick, Sydney, Australia; NHMRC Clinical Trials Centre, University of Sydney, Sydney, Australia; GINECO, Institut Claudius Regaud, Toulouse, France; University College London Cancer Institute, London, United Kingdom; Massachusetts General Hospital, Boston, MA; Princess Margaret Cancer Centre, Toronto, ON, Canada; ISGO & Chaim Sheba Medical Center, Tel Aviv University, Tel Aviv, Israel; Department of Genetics and Pathology, Pomeranian Medical University, Szczecin, Poland; GEICO & Hospital 12 de Octubre, Madrid, Spain; MITO & Department of Urology and Gynecology, Istituto Nazionale Tumori IRCCS Fondazione G. Pascale, Naples, Italy; NHMRC CTC Centre, University of Sydney, Camperdown, Sydney, Australia; MANGO and Europen Institute of Oncology, Milan, Italy; Department of Gynaecology and Obstetrics, Hannover Medical School, Hannover, Germany; Saitama Medical University International Medical Center, Hidaka, Japan; DGOG and Department of Medical Oncology, The Netherlands Cancer Institute, Amsterdam, Netherlands; BGOG and University Hospitals Leuven, Leuven Cancer Institute, Leuven, Belgium; Seoul National University, Seoul, South Korea; GINECO and Université Paris Descartes, AP-HP, Paris, France

Background: There are no data to support CA-125 as a surrogate biomarker for ovarian cancer PD in patients on maintenance therapy with a PARPi. We aimed to assess the concordance of PD by CA-125 with RECIST PD in patients treated with maintenance PARPi. **Methods:** We extracted data on PD as defined by GCIG CA-125 and investigator-assessed RECIST from the SOLO2/ENGOT-Ov21 (NCT01874353) trial. Patients were categorized into: (i) CA-125 and RECIST non-PD concordant; (ii) CA-125 and RECIST PD concordant; and (iii) CA-125 and RECIST discordant. We excluded those with PD other than by RECIST, PD on date of randomization, and no repeat CA-125 beyond baseline. To assess the concordance of CA-125 PD with RECIST PD and CA-125 non-PD with RECIST non-PD, we computed the positive predictive value (PPV), i.e. the probability that patients with CA-125 PD also had RECIST PD, and negative predictive value (NPV), i.e. probability that patients with no CA-125 PD also did not have RECIST PD, respectively. **Results:** Of 295 randomised patients, 275 (184 olaparib, 91 placebo) were included in the primary analysis. 80 (29%) had CA-125 PD and 77 had concordant RECIST PD, resulting in a PPV of 96% (95% CI 90%-99%). Of 195 patients without CA-125 PD, 101 also did not have RECIST PD, resulting in a NPV of 52% (95% CI 45%-59%; Table). Among those with RECIST PD (n = 171), a greater proportion of patients with RECIST-only PD had a normal baseline CA-125 than those with both CA-125 and RECIST PD (94% *vs* 69%; $p < 0.001$). Of 94 patients without CA-125 PD but had RECIST PD, 65 (69%) had CA-125 that remained within normal range, while 27 (29%) had rising and elevated CA-125 that did not meet the criteria for GCIG CA125-PD. Discordance between RECIST PD and CA-125 non-PD was similar in early ($\leq$12 weeks) and late ($>$ 12 weeks) PD (56% *vs* 55%, respectively; $p = 0.96$). **Conclusions:** Almost half the patients with RECIST PD did not have CA-125 PD and most had CA-125 still within the normal range. Regular imaging should be considered as part of surveillance in patients on maintenance olaparib rather than relying on CA-125 alone. Research Sponsor: Astra Zeneca.

Disease status by CA-125 criteria	RECIST-defined disease progression (n = 171)	No RECIST-defined disease progression (n = 104)	Total (n = 275)
Progressive disease, n (%)	77 (96%)	3 (4%)	80
Non-progressive disease, n (%)	94 (48%)	101 (52%)	195

6015 Poster Discussion Session; Displayed in Poster Session (Board #186), Fri, 8:00 AM-11:00 AM, Discussed in Poster Discussion Session, Fri, 8:00 AM-11:00 AM

Characterization of patients (pts) with long-term responses to rucaparib in recurrent ovarian cancer (OC).

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Background: Pts who derive durable benefit from PARP inhibitor treatment may provide insights into improving outcomes. Here we describe long-term responders from Study 10 (NCT01482715) and ARIEL2 (NCT01891344), studies of the PARP inhibitor rucaparib for the treatment of high-grade recurrent OC. **Methods:** This analysis included pts enrolled in Study 10 (Part 2A: *BRCA1* or *BRCA2* [*BRCA*]-mutant OC, platinum sensitive, 2–4 prior chemotherapies; Part 2B: any platinum status, 3–4 prior chemotherapies) and ARIEL2 (Part 1: *BRCA*-mutant or wild-type OC, platinum sensitive; Part 2: any platinum status, 3–4 prior chemotherapies). Final results from Study 10 (n = 54) and ARIEL2 (n = 491) were pooled. Long-term responders were defined as pts with duration of response (DOR) $>$ 1 y, and short-term responders as pts with DOR $\leq$ 20 weeks; responses were evaluated using RECIST. Targeted next-generation sequencing was used to detect deleterious mutations and loss of heterozygosity (LOH) in tumors. *BRCA1* methylation was quantified by digital droplet PCR. **Results:** Overall, 25% (138/545) of enrolled pts were responders. Of these, 29% (40/138) had long-term responses, including 16/138 (12%) with DOR $>$ 2 y; 21% (29/138) were short-term responders. Both groups received a median of 3 prior anticancer therapies. Among patients with *BRCA* mutations, *BRCA* homozygous deletion or rearrangement was detected in 15% (4/27) of long-term responders vs 0% (0/15) of short-term responders. In an expanded analysis of the 95 pts with *BRCA* mutations and confirmed response, pts with *BRCA* homozygous deletion or rearrangement had significantly longer DOR than pts with other mutation types (median 3.5 vs 0.6 y; HR = 0.30; p = 0.024). There was no apparent difference in *BRCA* gene or mutation location for long- vs short-term responders. Ten of the 13 long-term responders with *BRCA* wild-type OC had high genome-wide LOH ($\geq$16% LOH), a genomic scar indicative of homologous recombination deficiency, including OC associated with *BRCA1* hypermethylation (n = 2) and *RAD51C/D* mutations (n = 2). **Conclusions:** Long-term responders to rucaparib include OC with *BRCA* mutation, particularly homozygous deletion or rearrangements, which would not be susceptible to somatic reversion mutations, as well as *BRCA1* hypermethylation, and *RAD51C/D* mutations. Clinical trial information: NCT01482715; NCT01891344. Research Sponsor: Clovis Oncology, Inc.

6016 Poster Discussion Session; Displayed in Poster Session (Board #187), Fri, 8:00 AM-11:00 AM, Discussed in Poster Discussion Session, Fri, 8:00 AM-11:00 AM

A randomized phase II trial of secondary cytoreductive surgery (SCS) +/- carboplatin hyperthermic intraperitoneal chemotherapy (HIPEC) in patients (pts) with recurrent platinum-sensitive ovarian cancer (EOC).

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Background: The role of HIPEC for recurrent EOC is not well defined. The aim of this phase II study was to determine the proportion of pts without evidence of disease progression at 24 months post SCS +/- intraoperative carboplatin HIPEC. **Methods:** After SCS to $\leq$ 0.5 cm residual visible disease pts were intraoperatively randomized to carboplatin HIPEC (800mg/m^2 for 90 minutes) or no HIPEC. The HIPEC arm received 5 additional and the standard arm received 6 postoperative cycles of IV platinum-based chemotherapy without maintenance treatment. Based on an exact binomial single stage "pick the winner" design, each arm is considered "winner" if $\geq$ 17/49 pts are without evidence of disease progression at 24 months post SCS. Secondary objectives include postoperative grade $\geq$ 3 toxicity and complications within 4 weeks post SCS, and pharmacokinetics of carboplatin HIPEC. **Results:** Of 98 pts, 49 (50%) were randomized to the HIPEC arm. The arms were well balanced for age, stage, histology, BRCA mutation status, prior chemotherapy, and disease-free interval. Complete gross SCS was achieved in 94% of the standard and 82% of the HIPEC arm ($p = 0.12$). Bowel resection was performed more frequently in the standard (65%) compared to the HIPEC arm (37%; $p = 0.008$). Median operative time was shorter in the standard (296 minutes) compared to the HIPEC arm (475 minutes; $p < 0.001$). There was no perioperative mortality and no difference in use of ostomies, length of stay or postoperative toxicity. At a median follow-up of 27.7 months (range: 8.8-81.8 months) 70 of 98 pts progressed and 26 died with a median progression free survival (PFS) of 14.3 months (12.1-16 months) and a median overall survival (OS) of 55.2 months (47.7-not reached). At 24 months post SCS 32 pts progressed within 24 months in the standard versus 35 in the HIPEC arm. There was no statistically significant difference in median PFS (15.4 vs 12.3 months, $p = 0.173$) or median OS (69.2 vs 53.1 months, $p = 0.317$) between arms. These are preliminary efficacy estimates as 83/98 pts have a minimum of 24 months follow-up. **Conclusions:** The HIPEC arm did not reach the predefined "winner" endpoint; the standard arm is still undetermined as 6 pts did not reach 24 months follow-up. No perioperative mortality, and no increased perioperative morbidity or toxicity was seen with HIPEC. SCS with carboplatin HIPEC followed by 5 cycles of platinum-based chemotherapy was not superior to SCS without HIPEC followed by 6 cycles of platinum-based chemotherapy. Clinical trial information: NCT01767675. Research Sponsor: Gail Baird Foundation, Other Foundation.

6017 Poster Discussion Session; Displayed in Poster Session (Board #188), Fri, 8:00 AM-11:00 AM, Discussed in Poster Discussion Session, Fri, 8:00 AM-11:00 AM

Randomized double-blind placebo-controlled trial of primary maintenance vigil immunotherapy (VITAL study) in stage III/IV ovarian cancer: Efficacy assessment in *BRCA1/2*-wt patients.

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Background: Vigil is an autologous tumor cell vaccine constructed from autologous harvested tumor tissue transfected with a DNA plasmid encoding GMCSF and bi-shRNA-furin thereby creating TGFβ expression control. **Methods:** A randomized double-blind placebo-controlled trial of Vigil vs. placebo was performed in advanced stage frontline OC patients. Relapse-free survival (RFS) and safety were endpoints. Patients who achieved complete clinical response were randomized [1:1 to placebo (control group, CG) or Vigil (Vigil group, VG)] after completion of frontline surgery and chemotherapy. All patients received 1 x 10e7 cells/ml of Vigil or placebo intradermally once a month for up to 12 doses. **Results:** Ninety-two patients were randomized with 91 patients in the per-protocol population (PP), (VG n=46; CG n=45). 62 patients were tested for *BRCA1/2* status. VG showed no added overall toxicity compared to CG and no grade 4/5 toxicities were observed. Grade 2/3 toxic events were observed in 18% of CG patients (most common bone pain, fatigue) compared to 8% of VG patients (most common nausea, musculoskeletal pain). From time of randomization median RFS for all 91 patients was favorable in the VG (HR 0.69, one-sided p 0.088).Stratified by BRCA status, an advantage in RFS was seen in the *BRCA1/2*-wt patients in VG (19.4 mo) compared to CG (8 mo) (HR 0.51, 90% CI 0.26 – 1.01, one-sided p 0.050) from time of randomization and HR of 0.49 (90% CI 0.25 – 0.97, one-sided p 0.038) from time of surgery. Median time from surgery to randomization was 208.5 days (6.9 mo) in VG vs. 200 days (6.6 mo) in CG. 37.5% BRCA1/2-wt Vigil treated patients relapsed compared to 71% of placebo at time of data snap for analysis (HR 0.51, one-sided p 0.05), (median follow-up of 34.3 mo for all n=91 subjects). Germline and somatic *BRCA1/2* molecular testing via central third party is underway on all 91 patients under continued blinded conditions to validate activity in *BRCA1/2*-wt. **Conclusions:** Vigil immunotherapy as frontline maintenance in Stage III/IV ovarian cancer is well tolerated and showed RFS clinical benefit, particularly in *BRCA1/2*-wt disease. Clinical trial information: NCT02346747. Research Sponsor: None.

RFS in BRCA1/2-wt population from time of surgery/procurement.

Group	N	Number of events	Median RFS in mo (95% CI)	HR	One-sided p-value
Vigil	24	9/24 (37.5%)	Not reached (14.5 – N/A)	**0.49** (90% CI 0.25 – 0.97)	**0.038**
Placebo	24	17/24 (71%)	14.8 (12 - 21.2)		

6018 Poster Discussion Session; Displayed in Poster Session (Board #189), Fri, 8:00 AM-11:00 AM, Discussed in Poster Discussion Session, Fri, 8:00 AM-11:00 AM

Association of chronotype and pain at baseline in ovarian cancer survivors participating in a lifestyle intervention (NRG/GOG 0225).

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Background: Chronotype is defined as an individual's propensity to sleep at a specific time in a 24-hour cycle with late chronotype associated with poorer health outcomes including cancer. Chronotype remains relatively undefined in ovarian cancer. The Lifestyle Intervention for oVarian cancer Enhanced Survival (LIVES) study is testing whether 1205 women randomized to a diet and physical activity intervention for 24-months will have longer progression-free survival versus an attention control. Here we determine the association of late and early vs mid chronotypes and patient reported outcomes (PROs), lifestyle behaviors and biomarkers of metabolic health and inflammation in ovarian cancer survivors post-treatment ($\leq$ 6.5 months). **Methods:** Chronotype was determined using self-reported time to bed (early $<$ 9 pm; mid $\geq$ 9 pm - $\leq$12 am; late $>$ 12 am) captured through the Pittsburg Sleep Quality Index and PROs were measured using subscales of the Rand-36 questionnaire. Validated questionnaires for diet and physical activity were used and biomarkers were collected at routine clinic visits. A total subsample of 438 ovarian cancer survivors enrolled in NRG/GOG 0225- LIVES study with all available baseline measures were included in analyses. Descriptive statistics, general linear mixed models, and Pearson correlations were performed. **Results:** Reported pain was significantly higher in late chronotypes ($P < 0.05$) when compared to early and mid-chronotypes. Total sleep duration was significant between the 3 chronotypes ($P < 0.05$) with late chronotype experiencing less sleep (6.77 ± 1.67 hrs) than mid chronotype (7.04 ± 1.31 hrs) and early chronotype (7.56 ± 1.33 hrs). Higher reported pain was significantly correlated to poorer CRP levels ($r = -0.198$, $P < 0.001$) suggesting higher systemic inflammation and poorer blood insulin levels ($r = -0.116$, $P < 0.05$) independent of chronotype classification. All other subscales of the RAND 36 and physical activity were not associated with chronotype. Diet quality trended towards significance with a positive association observed in early and an inverse association in late chronotypes ($P = 0.06$). **Conclusions:** Late chronotypes reported higher levels of pain which was associated with poorer sleep and diet quality and higher levels of inflammation and insulin. More robust data, including actigraphy, are being analyzed and will provide additional insight of the role of circadian rhythm and phenotype on pain and key biomarkers in ovarian cancer survivors. Clinical trial information: NCT00719303. Research Sponsor: U.S. National Institutes of Health.

6019 Poster Discussion Session; Displayed in Poster Session (Board #190), Fri, 8:00 AM-11:00 AM, Discussed in Poster Discussion Session, Fri, 8:00 AM-11:00 AM

Beyond Sedlis: A novel, histology-based nomogram for predicting recurrence risk and need for adjuvant radiation in cervical cancer—A NRG/GOG ancillary analysis.

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Background: In GOG 49, factors associated with a 3-year, 30% recurrence risk in squamous cell carcinoma of the cervix (SCC) after surgery alone were defined. These "intermediate" risk factors [tumor size (TS), depth of tumor invasion (DOI), and lymphvascular space invasion (LVSI)] were then studied in GOG 92, which demonstrated the utility of treating patients (pts) with ≥2 intermediate risk factors with adjuvant radiation (RT), Sedlis Criteria. However, pts with < 30% recurrence risk were not eligible and few pts with adenocarcinoma (AC) were included. Our study purpose was 1) to evaluate recurrence risk factors for AC vs SCC, and 2) to define contemporary nomograms for adjuvant treatment in pts with both histologies. **Methods:** We performed an ancillary analysis of GOG 49, 92, and 141, and included Stage I pts who received no neoadjuvant/adjuvant therapy. Multivariable Cox proportional hazards models were created separately for AC and SCC to evaluate independent risk factors for recurrence. Model accuracy was tested with ROC curves. Prognostic nomograms were generated for 2-year recurrence risk for AC and SCC. **Results:** We identified 715 with SCC and 105 pts with AC; 142 with SCC (19.9%) and 18 with AC 17.1%) recurred. For SCC, factors associated independently with recurrence were: LVSI [HR 1.58 (CI 1.12-2.22)], DOI [middle 1/3, HR 4.31 (CI 1.81-10.26); deep 1/3, HR 7.05 (CI 2.99-16.64)] and TS [≥4cm HR 2.67 (CI 1.67-4.29)]. In contrast, for AC, only TS ≥4cm was independently associated with recurrence [HR 4.69 (CI 1.25-17.63)]. At 3 years, ROC curves for these models predicted recurrence with 76% and 75% accuracy for SCC and AC, respectively. Utilizing a nomogram generated from these models, for SCC, DOI had the greatest impact on recurrence, with mid 1/3 conferring an 18% risk and deep 1/3 a 32% risk, while LVSI and TS increased risk by 4-10%, respectively. In contrast, for AC, TS alone had the greatest impact on recurrence risk with TS 2-4cm conferring a 20% risk over 3 years and TS ≥4cm, a 28% risk. **Conclusions:** Our nomogram differs from the Sedlis Criteria in demonstrating that single, as well as a combination of risk factors predict substantial 3-year recurrence rates in Stage I cervical cancer. Furthermore, these factors differ by AC and SCC subtypes, suggesting that distinct, histology-specific nomograms may have greater utility in identifying pts who will most benefit from adjuvant therapy. Research Sponsor: None.

6021 Poster Discussion Session; Displayed in Poster Session (Board #192), Fri, 8:00 AM-11:00 AM, Discussed in Poster Discussion Session, Fri, 8:00 AM-11:00 AM

Camrelizumab plus apatinib in patients with advanced cervical cancer: A multicenter, open-label, single-arm, phase II trial.

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Background: Camrelizumab is a fully humanized, monoclonal antibody against PD-1. We aimed to assess the efficacy and safety of camrelizumab plus apatinib, a tyrosine kinase inhibitor targeting VEGFR2, in patients with advanced cervical cancer. **Methods:** In this open-label, single-arm, phase 2 study done at four centres in China, eligible patients were aged 18–70 years, had an ECOG performance status of 0 or 1, progressed after at least one line of systemic chemotherapy for metastatic, recurrent or persistent cervical cancer, and had measurable disease. Patients received camrelizumab 200 mg every 2 weeks and apatinib 250 mg once daily. Treatment continued until disease progression, unacceptable toxicity, and withdrawal of consent. The primary endpoint was the objective response rate (ORR) assessed by RECIST version 1.1. An optimal Simon two-stage design was employed to test the null hypothesis of a 17% ORR versus 35% alternative (1-sided alpha 0.10, 80% power), if $>$ 3 responses out of the first 16 patients were observed, then the study would continue to enroll a total of 44 patients. **Results:** Between Jan 21st, 2019, and Aug 1st, 2019, 45 patients were enrolled and received study treatment (safety population). The median age was 51 (range, 33–67) years. Median previous treatment lines were 2 (range, 1–4). As of Jan 22, 2020, median follow-up was 9.2 months (range, 2.4–12.2). 25 (59.5%; 95%: CI 44.7–74.4) of 42 patients who had at least one post-baseline tumor assessment (efficacy evaluable population) achieved an objective response, including two (4.8%) complete response, and 23 (54.8%) partial response. Median duration of response was not reached. The disease control rate was 88.1% (37/42). Median progression-free survival (PFS) was 7.6 months (95% CI: 5.8–not reached). 31 (68.9%) patients had grade $\geq$ 3 treatment-related adverse events (TRAEs). Grade $\geq$ 3 TRAEs occurring in $\geq$ 5% of patients were hypertension (24.4%), anemia (20.0%), fatigue (15.6%), γ-glutamyltransferase increased (13.3%), neutropenia (6.7%), and thrombocytopenia (6.7%). In post-hoc analyses, objective response was noted in 20 (69%) of 29 patients with PD-L1-positive tumors, and in 5 (50.0%) of 10 patients with PD-L1-negative tumors (Chi-square test, P = 0.281). PFS was longer in patients with PD-L1-positive tumors than patients with PD-L1-negative tumors (median PFS: 9.6 versus 5.3 months; log-rank test, P = 0.017). **Conclusions:** Camrelizumab plus apatinib showed promising antitumor activity and tolerable toxicities in patients with advanced cervical cancer. Clinical trial information: NCT03816553. Research Sponsor: Jiangsu Hengrui Medicine Co. Ltd., National Natural Science Foundation of China.

6022 Poster Discussion Session; Displayed in Poster Session (Board #193), Fri, 8:00 AM-11:00 AM, Discussed in Poster Discussion Session, Fri, 8:00 AM-11:00 AM

A Big Ten Cancer Research Consortium phase II trial of pembrolizumab with carboplatin and paclitaxel for advanced or recurrent endometrial cancer.

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Background: There are limited chemotherapeutic options for patients (pts) with advanced or recurrent endometrial cancer (EC). Reported objective response rates (ORR) for first-line doxorubicin/cisplatin/paclitaxel combination therapy was 57%; with a median progression-free survival (PFS) of 8.3 months. The goal of this phase II study was to assess the efficacy and safety of pembrolizumab in combination with standard carboplatin/paclitaxel in pts with measurable advanced or recurrent EC. **Methods:** This was a single-arm, open-label, multi-center phase II study for pts with RECIST measurable advanced or recurrent EC coordinated by the Big Ten Cancer Research Consortium. Patients may have had received 1 prior platinum-based regimen, with a platinum free interval $>$ 6 months, $<$ one non-platinum chemotherapy, or prior hormonal therapy. Pts received carboplatin AUC 6, paclitaxel 175mg/m^2 (CT) and pembrolizumab 200mg IV every 3 weeks for up to 6 cycles; with dose reduced for prior radiation. The primary endpoint was ORR per immune-related RECIST. Planned sample size of 46 subjects provided 77% power to detect 15% ORR improvement compared to historical controls, with one-tailed test and 10% type I error rate. **Results:** 46 pts were enrolled. Median age was 67 (range: 43-86). 32 pts had recurrent and 14 had primary metastatic EC. Histological types were: 26 endometrioid, 11 serous, 3 clear cell, 6 other. 19 patients had received prior carboplatin/paclitaxel, 23 pelvic EBRT, 14 brachytherapy, 1 adriamycin and 1 hormonal therapy. Grade 3-4 adverse events (AEs) included: laboratory abnormalities (20), hematological (8), metabolism (6), nervous system (4), gastrointestinal (2), and others (6). There were 15 grade 3-4 SAEs occurring in 7 pts: vomiting (1), anaphylaxis (3), fever (2), dehydration (1), syncope (2), vascular (2), fatigue (1), neurological (2), thrombocytopenia (1), and no grade 5 SAEs. 36 patients were evaluable for response at the time of abstract submission. ORR was 77.8% (28/36) and median PFS was 10.55 months. **Conclusions:** The addition of pembrolizumab to standard of care CT chemotherapy for advanced or recurrent EC induced a clinically significant improvement in ORR compared to historical outcomes and toxicity did not exceed anticipated toxicity with standard treatment, supporting further testing in a phase III trial. Clinical trial information: NCT02549209. Research Sponsor: Merck.

6023 Poster Discussion Session; Displayed in Poster Session (Board #194), Fri, 8:00 AM-11:00 AM, Discussed in Poster Discussion Session, Fri, 8:00 AM-11:00 AM

Effect of high-dose chemotherapy with autologous stem cell rescue (HDC-aSCR) on outcome in ovarian small-cell carcinoma, hypercalcemic type (SCCOHT): Prospective series from the French Rare Gynecologic Malignant Tumors Network (TMRG).

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Background: Small cell carcinoma of the ovary, hypercalcemic type (SCCOHT), is a rare and rapidly lethal disease affecting young women with over half dying within 2 years of diagnosis. We previously reported improved outcomes with cytoreductive surgery followed by HDC-aSCR in a prospective study, but these encouraging results needed to be confirmed in an independent and larger cohort. **Methods:** Between 2008 and 2019, out of 44 patients (pts) diagnosed with centrally confirmed SCCOHT in 16 referent centers of the TMRG network, 38 were treated prospectively according to the French recommendations of the network with complete surgery (primary or after neoadjuvant chemotherapy), 4 to 6 cycles of PAVEP chemotherapy (cisplatin, doxorubicin, vepeside, and cyclophosphamide), and for pts with complete response (CR), HDC-aSCR, followed by pelvic radiotherapy. The 6 patients who could not receive PAVEP (unfit or diagnostic delay) relapsed and died rapidly. The primary endpoint was the event-free survival (EFS) in the intention-to-treat cohort. **Results:** Median age at diagnosis was 33 years (14-76). 13 pts presented with FIGO stage I, 17 stage III and 6 stage IV, 2 unknown. Median follow-up was 55.5 months. 34 patients achieved CR with CT + surgery and 30 received HDC-aSCR (40%, 47% and 10% with stages I, III and IV diseases respectively) and 21 received also pelvic radiotherapy. Median overall and event-free survival was 36.4 and 15.9 months respectively, and 2-years event-free survival rate was 40% (CI95% 25-56). Median OS was respectively not reached, 18 and 9.6 months for FIGO I, III and IV patients. Among the pts (N = 14) who did not receive HDC-aSCR (rapid progression during or after PAVEP), the 2-yr EFS was 0% compared to 50.5% for the 30 patients receiving HDC. In multivariate analysis, HDC was significantly correlated with better outcomes ($p < 0.001$). For the 21 patients receiving also pelvic radiotherapy, 57% (12/21) are free of recurrence at 4 years. Grades 3/4 adverse events were frequent (78%) but, in most cases, manageable, although one toxic death (3%) occurred during HDC (fungal septic shock). **Conclusions:** Treatment of SCCOHT, with intensive multimodal therapy, is associated with a 40% 2-yr event-free survival. However, this protocol is associated with significant toxicity and should be restricted to good performance status patient and expert centers. Research Sponsor: None.

6025 **Poster Session (Board #196), Fri, 8:00 AM-11:00 AM**

Phase II trial of guadecitabine priming and pembrolizumab in platinum resistant recurrent ovarian cancer.

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Background: Platinum resistant ovarian cancer (PROC) remains a disease of high need. Immune checkpoint inhibitors (ICI) have modest activity. We hypothesized that priming with a hypomethylating agent (HMA) guadecitabine (G) will improve the anti-tumor activity of ICI in PROC by enhancing tumor cell recognition by CD8+ T cells. **Methods:** This open-label phase II study used a Simon's two-stage design. Eligible patients (pts) had recurrent PROC; ECOG PS of 0-1; normal end organ function; and measurable disease. Up to 5 prior cytotoxic regimens were allowed. Treatment consisted of G 30mg/m2 sq D1-4 and pembrolizumab (P) 200mg iv D5. Each cycle was 21 days. The primary endpoint was response rate (RR). Secondary endpoints were progression-free survival (PFS), clinical benefit rate (CBR), and toxicity assessment. Translational endpoints were LINE1 methylation in PBMCs, global tumor methylation, and immune endpoints. Tumor biopsies were obtained at baseline and after 2 cycles. If 2 patients experienced clinical benefit in stage I [n = 16], enrollment proceeded to stage II. The null hypothesis was rejected for $\geq$ 6 responses in 35 evaluable patients. **Results:** 48 pts were enrolled, 43 were treated, and 33 were evaluable for response. Histology was serous (35), endometrioid (2), clear cell (3) and other (3). Median age was 63 (range 40-88) and median number of prior regimens was 4 [range 1-8]. Two PRs were recorded in the first stage, allowing second stage of enrollment. Overall, there were 2 PRs (RR = 6.6%) and 16 pts had stable disease (SD) [48%]. The clinical benefit rate (PR + SD $>$ 3 months) was 27%. One patient continued treatment for $>$ 2 yrs. Grade 3-4 related toxicities were neutropenia [20], lymphopenia, (9), anemia (2), neutropenic fever (1), rash (1), and others (8). There were 13 grade 3-4 SAEs and 4 grade 5 SAEs, assessed as being unrelated to treatment. LINE1 was hypomethylated in PBMCs D5 vs. D1 (n = 21, p = 0.001). Epic arrays measured global tumor methylation, with 39579 CpG sites (0.05%) being differentially methylated (C2D5 vs. C1D1, n = 11, paired t-test; $p < 0.01$). Main pathways affected included *endosomal transport, K+ transport, cathecolamine secretion, etc*. PDL1 staining in archival tissue showed tumor staining $>$ 0 in 16 of 35 and tumor/stroma interface staining $>$ 0 in 20 of 35 specimens. Antigen-specific cytotoxic T cell activity was increased in CD8+ cells from ascites (C2D5 vs. C1D1). **Conclusions:** G+P has modest anti-tumor activity in patients with PROC, but some patients experienced prolonged disease stabilization. Biomarkers of response are being investigated. Clinical trial information: NCT02901899. Research Sponsor: Department of Defense, Pharmaceutical/Biotech Company.

6027 **Poster Session (Board #198), Fri, 8:00 AM-11:00 AM**

A randomized phase II/III trial of conventional paclitaxel and carboplatin with/without bevacizumab versus dose-dense paclitaxel and carboplatin with/without bevacizumab, in stage IVB, recurrent, or persistent cervical carcinoma (JCOG1311): Results of the phase II part.

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Background: A randomized controlled trial was conducted to assess the efficacy and safety of dose-dense, weekly paclitaxel plus carboplatin (ddTC) with or without bevacizumab (Bmab) compared to conventional, tri-weekly paclitaxel plus carboplatin (cTC) with or without Bmab, in metastatic or recurrent cervical carcinoma not amenable to curative treatments with local therapy. **Methods:** Patients were randomly assigned to either a cTC or a ddTC regimen. After Bmab was approved in Japan (in May 2016) the protocol was amended, and patients on both arms received Bmab if not contraindicated. The cTC was paclitaxel 175 mg/m^2 intravenously (IV) for 3 h on day 1 followed by carboplatin at an area under the curve of five IV for 1 h on day 1. The ddTC was paclitaxel 80 mg/m^2 IV for 1 h on day 1 followed by carboplatin at an area under the curve of five IV for 1 h on day 1 and paclitaxel 80 mg/m^2 IV for 1 h on day 8 and day 15. Both cTC and ddTC treatments were repeated every three weeks, for up to nine cycles. Bmab 15 mg/kg IV was repeated until progression or unacceptable toxicity. The primary endpoint of phase II was the response rate (RR) in patients with measurable lesion, who had received Bmab. If the RR of the ddTC + Bmab arm was greater than that of the cTC + Bmab arm for more than 5%, the study would proceed to phase III, which had overall survival (OS) as its primary endpoint. The planned sample size in the phase II part was 56 to select the ddTC arm with a probability of at least 75% if the difference of RR was 15% or more (45% vs. 60%). **Results:** Patient accrual started in October 2015. It was suspended in May 2019 because the number of Bmab-treated patients with measurable lesions reached 56. In total, 122 patients were enrolled and randomly assigned to either the cTC arm (cTC: 29 patients; cTC + Bmab: 32 patients) or the ddTC arm (ddTC: 30 patients; ddTC + Bmab: 31 patients). The primary analysis of the phase II part was conducted in November 2019. The RRs of each regimen were 67.9% [95% CI, 47.7-84.1] (19/28, cTC + Bmab), 60.7% [40.6-78.5] (17/28, ddTC + Bmab), 55.2% [35.7-73.6] (16/29, cTC), and 50.0% [29.9-70.1] (13/26, ddTC). **Conclusions:** The study did not meet the primary endpoint of phase II. Dose-dense, weekly paclitaxel plus carboplatin is not promising for metastatic or recurrent cervical carcinoma. Clinical trial information: jRCTs031180007. Research Sponsor: Japan Agency for Medical Research and Development, National Cancer Center Research and Development Fund of Japan.

6028 **Poster Session (Board #199), Fri, 8:00 AM-11:00 AM**

Histopathologic validation of the sentinel node technique in early-stage cervical cancer patients.

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Background: Sentinel lymph node biopsy (SLN) could be an alternative to systematic lymphadenectomy in early cervical cancer. SLN is less morbid and had shown a high sensitivity for metastasis detection. However, sensitivity of the SLN technique could be over evaluated because SLN are examined with ultrastaging and non sentinel nodes are only examined with routine techniques. The aim of this study was to validate the negative predictive value (NPV) of the SLN technique, with ultrastaging of SLN and non sentinel nodes (NSLN). **Methods:** We used the SENTICOL 1 study data, published in 2011. All nodes, SLN and NSLN have been secondarily subjected to ultrastaging. The ultrastaging consisted in sectioning every 200 μm and immunohistochemistry. A central reviewing of the positive slides and 10% of the negative slides was undertaken. **Results:** One hundred thirty-nine patients were included. SLNs were detected in 136 (97.8%) of the 139 patients. SLNs were found bilaterally in 104 (76.5%) of the 136 patients. 2056 NSLNs were identified (median = 13 NSLNs per patient [range 1-54]). Of 136 patients with SLNs detection, 23 had positive SLNs, after serial sectioning and IHC. NSLNs were metastatic in 8 patients. However, in case of bilateral SLN detection, the FN rate was 1/99 (1%) with detection of ITC in one NSLN from 99 bilateral negative SLNs. The NPV was 99% (0,99 [IC 95% = 0,97-1,00]). **Conclusions:** The pelvic SLN technic is a safe and trustfully technic to determine the nodal status in patients with early-stage cervical cancer. In case of optimal mapping with bilateral detection, NPV is 99% (IC 95% = 0,97-1,00). Research Sponsor: the National French Cancer Institute (PHRC 2004).

6029 **Poster Session (Board #200), Fri, 8:00 AM-11:00 AM**

Survival differences by race after minimally invasive versus open radical hysterectomy.

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Background: Black patients with cervical cancer have historically experienced worse survival compared with white women, as well as decreased rates of minimally invasive surgery (MIS) including radical hysterectomy. The goal of our study is to evaluate if this disparity in survival outcomes reverses in light of new findings favoring an open approach for patients with stage IA2 and IB1 cervical cancer compared to MIS. **Methods:** The National Cancer Database was queried, and all black and white women with stages IA2 and IB1 cervical cancer who underwent radical hysterectomy from 2010 to 2015 were included. Patients without survival data or documented surgical approach were excluded. Demographic factors were compared using student t-tests and Z-test of proportions as appropriate. Hazard ratios (HR) for the event of mortality were calculated by race and by route of surgery. Kaplan-Meier plots were created to compare survival between groups, and the Cox proportional hazards model was used to adjust for covariates. **Results:** 4915 patients were identified for inclusion, 12.1% black and 87.9% white. 43.0% of patients underwent open surgery (84.9% white and 15.1% black) and 57.0% underwent MIS (90.1% white and 9.9% black). Average follow up time between groups was 39.5 months for black patients and 40.6 months for white patients. Black patients who underwent open surgery had a hazard ratio (HR) for mortality of 1.44 (95% CI: 1.03-2.00), and those who underwent MIS had a HR of 1.48 (95% CI: 1.03-2.12), when compared to white patients. Mortality rates for black patients undergoing open radical hysterectomy remained higher than those for white patients who underwent MIS. When adjusted for age, insurance status, neighborhood income and educational level, tumor type, Hispanic ethnicity, node positivity and tumor size, these hazard ratios were no longer significant. **Conclusions:** Following discoveries of improved outcomes following abdominal radical hysterectomy as compared with MIS, we have identified that the discrepancy in ability to undergo MIS did not resolve previously identified disparities in the outcome of death for black women. Research Sponsor: None.

6030 **Poster Session (Board #201), Fri, 8:00 AM-11:00 AM**

Gastric-type adenocarcinoma of the cervix: Genomic drivers and clinical outcomes.

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Background: Cervical Gastric-type adenocarcinoma (CGA) is a non-HPV-associated adenocarcinoma, comprising 10% of all cervical adenocarcinomas (Park et al, 2019). The optimal management approach is unclear, given that most data in advanced cervical cancer is driven by HPV-positive disease. We summarize our experience with this rare tumor type at a large cancer center. **Methods:** A retrospective review was performed for all women diagnosed with CGA 6/1/2002- 7/1/2019. Patients who did not follow up after a single visit were excluded. Kaplan-Meier survival analysis was performed to determine progression-free survival (PFS) and overall survival (OS) from date of diagnosis. Tumors from a subset of patients were subjected to MSK-IMPACT targeted sequencing and analysis (Zehir et al, 2017). **Results:** A total of 68 women were identified; 47 met inclusion criteria. The median age at diagnosis was 52 years (range 27-83). The majority of patients were white (70%), an additional 19% were Asian. The majority of patients (60%, n=28) presented with advanced disease (FIGO 2018, stage II-IV), while 40% (n=19) were Stage I. Of note, 26% (n=12) had positive pelvic lymph nodes and 13% (n=6) had ovarian metastases at time of surgical resection. For upfront treatment: 13% (n=6) had surgery alone of whom 83% had stage 1 disease, 36% (n=17) had surgery followed by adjuvant therapy, 30% (n =14) received definitive chemo-radiation (CRT). All patients with stage IV disease 15% (n=7) received chemotherapy alone. At completion of primary treatment, 19% (n=9) of patients had persistent disease. In patients who received CCRT, 65% (n=22) recurred, the majority (64%) within 12 months of completion of upfront therapy. Pelvic recurrence was the most common site (n=14, 64%). With a median follow up time of 30 months (range 1-159), the median PFS for Stage I was 34.4 months, compared to 17.5 months in patients with Stage II-IV disease (p= 0.29). Of the 24 patients that had MSK-IMPACT, the most common mutation was TP53 (n=16, 64%) followed by mutations in the RAS pathway (n=8, 33%), PIK3CA (n=3, 12.5%), STK11 (n=3, 12.5%), and ERBB2 alterations (n=2, 8.3 %). 2 (8.3%) women enrolled on a clinical trial based on their NGS results, one targeting ERBB2 and one targeting PIK3CA. **Conclusions:** Consistent with prior published literature, CGA is an aggressive form of cervical cancer with poor median OS in the advanced setting. With universal HPV vaccination, HPV negative cervical cancer will represent a larger percentage of newly diagnosed cancers and further research is needed to identify the optimal management approach. Research Sponsor: None.

6031 **Poster Session (Board #202), Fri, 8:00 AM-11:00 AM**

Adjuvant chemotherapy after concurrent chemoradiation therapy for locally advanced cervical cancer.

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Background: Standard treatment nowadays for locally advanced cervical cancer (LACC) is concurrent chemoradiation therapy (CCRT). However, due to distant metastasis, survival outcomes are still not optimistic. We tried to evaluate the clinical efficacy and safety of adjuvant chemotherapy for patients with LACC after treated with concurrent chemoradiation therapy (CCRT). **Methods:** Patients diagnosed between May, 2013 to May, 2018 with stage IIA-IIIB LACC were retrospectively analyzed. All the patients received platinum-based radical concurrent chemoradiotherapy and were divided into two groups: adjuvant chemotherapy after CCRT (CCRT+ACT group) and observation after CCRT (CCRT group). Overall survival (OS), progression free survival (PFS) and adverse effects were recorded and analyzed. Kaplan–Meier method and log-rank test were used to calculate and compare differences between survival outcomes. Toxicities were analyzed using chi-square test. **Results:** In total, 375 patients were included in this study, and 262 patients accepted ACT after CCRT while the remaining 113 patients chose to observe. With a median follow-up of 40 months (range 5-73 months), no significant differences were found in both overall survival (OS) and progression free survival (PFS) between two groups referring as 88.5% vs. 90.3% (P= 0.904) and 83.2% vs. 87.6% (P= 0.374). OS rates for patients in CCRT+ACT and CCRT groups at 1 year and 3 years were 97.3% vs. 94.7% (P= 0.195) and 90.2% vs. 88.4% (P= 0.694), respectively. Meanwhile, PFS rates at 1 year and 3 years were 92% vs. 94.7% (P= 0.371) and 87.5% vs. 85.5% (P= 0.761) for two arms separately. 3-4 grades acute adverse events happened more frequently in CCRT+ACT group than in CCRT group, with significant differences in neutropenia and anemia (P <0.05). **Conclusions:** In this study, adjuvant chemotherapy after concomitant chemoradiotherapy did not show benefit of survival but do induce adverse effects. We do not suggest it unless further large scale randomized controlled trials are executed to verify it. Research Sponsor: None.

6032 **Poster Session (Board #203), Fri, 8:00 AM-11:00 AM**

GIs-010, a novel anti-PD-1 mAb in Chinese patients with recurrent or metastatic cervical cancer: Results from a multicenter, open-label and single-arm phase II trial.

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Background: GLS-010 is a novel fully human anti-PD-1 mAb. Previous Phase I study exhibited favorable result of tolerance, preliminary efficacy and 240mg fixed dose q2w was selected as Recommended Phase II Dose (RP2D). This Phase II clinical trial is aimed to further evaluate the safety and anti-tumor activity of GLS-010 in patients with recurrent or metastatic cervical cancer. **Methods:** PD-L1 positive (combined positive score (CPS) ≥1) patients with recurrent or metastatic cervical cancer who had received one or more lines of chemotherapy were enrolled and received GLS-010 240mg every 2 weeks. Primary endpoint was the objective response rate (ORR) per RECIST 1.1, secondary endpoints included duration of response (DoR) and safety. **Results:** From May 16th 2019 to December 24th 2019, 44 pts were enrolled and treated in the study. As of December 24th 2019,the median line of prior systemic chemotherapy was 2(range: 1~4), and 59% (26/44) of pts had received ≥2 previous lines of chemotherapy. The median number of GLS-010 doses was 1.5(range: 1~4). 25 pts received response evaluation per investigator review. With a median follow-up of 2.9 months, 7 of 25 evaluable pts achieved a partial response (PR). The ORR was 28% (95% CI, 12.07-49.39), with 7 pts achieving a PR (3 of 7 confirmed), 3 pts achieving stable disease (SD) and 15 pts with progressive disease (PD), 1 of which was assessed as dissociated response with treatment ongoing. Median duration of response had not been reached yet. 33 of 44 patients (75%) experienced one or more treatment-related adverse events (TRAEs) per NCI CTCAE v4.03, most of which were grade 1 or 2. The most common TRAEs were Anaemia (15/44), and 73.3% of them were grade 1 or 2. The most common ≥grade 3 TRAE included Anaemia (4/44). As data cut off, only 1 pt discontinued treatment due to adverse event. **Conclusions:** GLS-010 showed impressive therapeutic activity and manageable safety profile in Chinese recurrent or metastatic cervical cancer patients. Current evidence support further development of GLS-010 in this and more indications. This trial is still ongoing, and we are looking forward to further results. Clinical trial information: NCT03972722. Research Sponsor: Guangzhou Gloria Biosciences Co., Ltd.

6033 **Poster Session (Board #204), Fri, 8:00 AM-11:00 AM**

Genome-wide association analysis in host genetic characteristics of progression to high-grade cervical intraepithelial neoplasia or higher for women with human papillomavirus infection and normal cytology.

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Background: Human papillomavirus (HPV) testing is widely used for cervical cancer screening. The hazard ratio of developing cervical intraepithelial neoplasia grade 2 or higher (CIN2+) in HPV-positive/ normal cytology women is 20–34 fold as compared to those with HPV-negative/normal cytology. HPV-positivity would cause substantial anxiety. Apart from viral factors such as high-risk (hr) types, it is important to identify host characteristics for predicting outcome. **Methods:** An initial genome-wide association study (GWAS) of single nucleotide polymorphisms (SNPs) by Affymetrix Axiom™ Genome-Wide Human Arrays was conducted on 505 cases with histological diagnosis of CIN2+ (group D1) versus 920 female controls. An additional set of 2315 female controls from the Taiwan Biobank genotype array were added in the discovery stage. The identified 29 CIN2+ -associated SNPs from GWAS ($p < 5 \times 10^{-6}$) were verified in an independent cohort (group D2 [n = 306] versus group N [n = 600]). Group N were HPV-negative/normal cytology women from a population-based cervical cytology and HPV co-test study. A cohort with HPV-positive/normal cytology (group P, n = 755) underwent follow-up and was served as the prediction set. The predictive validity was analyzed by logistic regression and receiver operating characteristic (ROC) curve analysis. **Results:** Thirty-three individuals of the group P progressed to CIN2+ (median follow-up: 23.7 months, range 4.0–122.1). A risk-predictive panel of 8 SNPs rs3097662, rs35979982, rs7763822, rs4282438, rs3128927, rs7759943, rs213194, rs17835649 which were significant in the replication ($p < 0.05$) was used to train models for disease risk prediction using the combination of GWAS and verification sets. Two prediction models were finalized and determined using 7 SNPs for hr- and low-risk (lr) HPV groups respectively (sensitivity 0.72 and 0.75, specificity 0.651 and 0.884, area under the ROC curve 0.703 and 0.701). Among group P with hr-HPV, those carried < 6 risk-alleles had significantly decreased hazard (log-rank $p < 0{\cdot}001$) of progression to CIN2+ than those with $\geqq 6$ risk-alleles, while among group P with lr-HPV, those with predictive probability of $\geq 0{\cdot}095$ had a cumulative risk of progression of 10% at 3 years. **Conclusions:** Two risk-predictive SNP panels including 7 SNPs with hr- or lr-HPV groups can assist risk stratification among HPV-positive/ normal cytology women. These panels could be further tested in other ethnic populations. Research Sponsor: Supported by grants from Chang Gung Medical Foundation (OMRPG3B0041, CMRPG371151-3, CMRPG380731, CMRPG391451, and CRRPG3D0021/2/3), and the Ministry of Health and Welfare-Taiwan (DOHW105-TDU-B-212-113003, MOHW106-TDU-B-212-113005, and MOHW107-TDU-B-212-11.

6034 **Poster Session (Board #205), Fri, 8:00 AM-11:00 AM**

Anlotinib in patients with recurrent advanced cervical cancer: A prospective single-arm, open-label, phase II trial.

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Background: Anlotinib is a novel multi-target tyrosine kinase inhibitor that has previously shown clinical antitumor activity in various cancers, including the phase I study on female genital tumors. This phase II study (ChiCTR1800020116) aims to further evaluate the safety and efficacy of anlotinib, in those patients with recurrent advanced cervical cancer. **Methods:** Eligible patients were advanced cervical cancer who had received at least two previous lines of chemotherapy. Patients were given anlotinib (12 mg/day) from day 1 to day 14 in a 21-day cycle until disease progression or had unacceptable toxic effects. The primary endpoint of this study was objective response rate (ORR) and the secondary endpoints were progression-free survival (PFS), overall survival (OS) and safety. **Results:** Between 2018 December and 2019 October, 41 patients (female) were enrolled. As of January 15, 2020, median follow-up duration, from randomization to data cutoff, was 2.6 months (range, 0.7-10.3). Therapeutic evaluation showed the ORR was 32.1% (95%CI, 13.7%-50.6%) and the median PFS was 3.9 months (95% CI, 1.3%-6.5%). The most frequently reported adverse events were lymphocyte count decreased, anemia, hand-foot syndrome, blood uric acid increased, blood creatinine increased, blood thyroid stimulating hormone increased. All frequently occurring AEs were grade 1 or 2. High grade AE was only observed in 1 patient with white blood cells urine positive of grade 3. Neither unexpected safety signals nor treatment related death occurred. **Conclusions:** Anlotinib showed a promising activity with an acceptable safety profile for patients with recurrent advanced cervical cancer. Clinical trial information: ChiCTR1800020116. Research Sponsor: Chia-Tai Tianqing Pharmaceutical Group Co Ltd.

6035 **Poster Session (Board #206), Fri, 8:00 AM-11:00 AM**

Photodynamic therapy for preinvasive cervical cancer.

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Background: Photodynamic therapy (PDT) is an effective treatment for various cancers ensuring maximum preservation of the viability of healthy tissues surrounding the tumor. The purpose of the study was to reveal the effectiveness of PDT in treatment for preinvasive cervical cancer. **Methods:** The study included 45 patients aged 22-53 years with preinvasive cervical cancer. The patients were divided into two groups depending on the type of the transformation area and the tumor site: group 1–on the exocervix (type I-II), n=24; group 2–on the endocervix (type III), n=21. Infection with high-risk genotypes of HPV (16, 18, 31, 33, 35, 45, 56) was detected with PCR in 37 (82%) women. All patients received PDT with the semiconductor Latus laser up to 3 W, a single-use diffusing fiber for the exocervix irradiation and a single-use cylindrical diffusing fiber for tumors in the cervical canal. Photoditazine and photolon were used as photosensitizers. Effectiveness criteria included the normalization of the colposcopic picture, the absence of atypical cells, and the pathogen elimination confirmed by PCR. **Results:** A normal cytogram profile was observed after PDT in 84% of group 1 and in 88% of group 2. PCR 3 months after PDT showed a positive HPV reaction in 9.1%. Neither group of patients had negative changes in cytogram after 6 and 12 months. Repeated HPV DNA tests detected HPV DNAs in 2.8% in group 1 and 3.2% in group 2. The effectiveness of PDT did not depend on the photosensitizer. The maximum follow-up period has lasted for 4.5 years, with no recurrences registered. During this period, three young women successfully gave birth to healthy children. **Conclusions:** PDT is an alternative treatment for pre-tumor and initial tumor pathology of the cervix with preservation of the anatomical and functional integrity of the organ, which is important for the female reproductive function. The results support the use of PDT in treatment for preinvasive cervical cancer. Research Sponsor: None.

6036 **Poster Session (Board #207), Fri, 8:00 AM-11:00 AM**

Gut microbiome diversity as an independent predictor of survival in cervical cancer patients receiving chemoradiation.

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Background: Diversity of the gut microbiome is associated with response rates for patients receiving immunotherapy. Studies investigating the gut microbiome and outcomes in cancer patients often do not adjust for confounding patient and tumor characteristics. We sought to identify independent gut microbial risk factors in cervical cancer (CC) patients receiving chemoradiation (CRT) and to evaluate their impact on survival. **Methods:** We analyzed baseline 16S rDNA fecal microbiomes of CC patients receiving standard CRT. Patient and tumor characteristics were analyzed by univariate and multivariate Cox regression models for Recurrence-free survival (RFS) and Overall survival (OS) based on univariate p-value$>$0.2. Characteristics included age, body mass index (BMI), race, stage, grade, histology, nodal status, and max tumor size. Alpha (within sample) diversity was evaluated using Shannon diversity index (SDI). Kaplan-Meier curves were generated for patients with normal BMI and overweight/obese BMI based on Cox analysis. **Results:** 55 CC patients were included. Univariate analysis identified older age (Hazard Ratio (HR) of 0.93 (95% CI = 0.87-0.98, p = 0.0096)), SDI (HR of 0.51 (95% CI = 0.23-1.1, p = 0.087)) and BMI (HR of 0.92 (95% CI = 0.84-1, p = 0.096)) as risk factors for RFS. Multivariate survival analyses identified BMI and SDI as independent prognostic factors for RFS with a HR of 0.87 (95% CI = 0.77-0.98, p = 0.02) and 0.36 (95% CI = 0.15-0.84, p = 0.018) respectively. For OS, multivariate survival analyses again identified BMI and SDI as independent prognostic factors with a HR of 0.78 (95% CI = 0.623-0.97, p = 0.025) and 0.19 (95% CI = 0.043-0.83, p = 0.028) respectively. **Conclusions:** Gut diversity is a significant factor for predicting OS in CC patients undergoing CRT when BMI is accounted for, and may help explain the "obesity paradox" in cancer response. Studies exploring the relationship between gut diversity, CRT, and treatment efficacy are needed to further understand the role of the gut microbiome in treatment outcomes. Research Sponsor: U.S. National Institutes of Health, The University of Texas MD Anderson Cancer Center HPV-related Cancers Moonshot.

Univariate and multivariate analysis for RFS and OS.

Characteristics	Uni-variate HR (95% CI)	Model *P*value	Multivariate HR (95% CI)	Model *P*value
Age				
RFS	0.93* (0.87-0.98)	0.0096‡	—	—
OS	0.95 (0.87-1)	0.23	—	—
BMI				
RFS	0.92 (0.84-1)	0.096	0.87* (0.77-0.98)	0.02‡
OS	0.83 (0.69-1)	0.055	0.78* (0.623-0.97)	0.025‡
Shannon diversity index (SDI)				
RFS	0.51 (0.23-1.1)	0.087	0.36* (0.15-0.84)	0.018‡
OS	0.34 (0.1-1.1)	0.08	0.19* (0.043-0.83)	0.028‡

CI, Confidence interval; *HR*, hazard ratio; ∗Significant *HR*; ‡Significant *P* value

6037 **Poster Session (Board #208), Fri, 8:00 AM-11:00 AM**

Delayed adjuvant radiotherapy in early-stage cervical cancer with intermediate-risk features has a detrimental effect on survival that cannot be corrected by adjuvant chemotherapy.

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Background: GOG-0263 is currently investigating the role of adjuvant chemotherapy (CT) concurrently with radiotherapy (RT) in patients with early stage cervical cancer that underwent radical hysterectomy and pelvic lymphadenectomy harboring intermediate risk features. We used a retrospective database to investigate whether adjuvant chemotherapy significantly influenced overall survival (OS), and whether its effectiveness is influenced by delays in radiotherapy. **Methods:** All data was obtained from the NCDB (National Cancer Database) and initially contained 115,747 cases of cervical cancer diagnosed between 2004 and 2015. Analyzed patients had early stage disease, received radical hysterectomy with pathologic stage I to IIA, and had intermediate risk features including size greater than 4 cm or lymphovascular invasion. All patients received adjuvant RT with or without CT. Cases with positive margin or nodes, with parametrial extension, or metastasis were excluded. Cases were weighted by inverse probability of treatment (CT) using clinical and socioeconomic variables, and analyzed for OS using multivariate models. Predictors of receiving CT were determined using multivariate logistic regression. **Results:** The final cohort was 557 patients with median follow-up of 43 months (range, 1.54-143.7). Median survival without CT (n = 244) versus with CT (n = 313) was 42.2 versus 43.9 months (HR 0.81, 95%CI 0.661-0.995, p = 0.045). Median time from diagnosis to RT was 91 days (range, 21-691), and predicted for inferior OS (p = 0.007). No significant interaction existed between RT delay and receipt of CT (p = 0.997). Cases with squamous histology were less likely to receive CT than adenocarcinoma histology (OR 0.345, 95%CI 0.159-0.725, p = 0.006). **Conclusions:** Poor survival outcomes are observed in patients with early stage cervical cancer harboring intermediate risk features when adjuvant radiotherapy is delayed. This outcome was not corrected by addition of chemotherapy. Research Sponsor: None.

6038 **Poster Session (Board #209), Fri, 8:00 AM-11:00 AM**

Prexasertib, a cell cycle checkpoint kinase 1 inhibitor, in *BRCA* mutant recurrent high-grade serous ovarian cancer (HGSOC): A proof-of-concept single arm phase II study.

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Background: Preclinical data suggest cell cycle checkpoint inhibition induces greater cell death in *BRCA* mutant HGSOC by causing replication stress and dysregulation of DNA damage responses. We hypothesized that prexasertib, a cell cycle checkpoint kinase 1 (CHK1) inhibitor, would be active in *BRCA* mutated HGSOC patients. **Methods:** We conducted a single center, two-stage phase II study of prexasertib (105mg/m^2 IV every 2 weeks) in HGSOC patients with known germline or somatic *BRCA* mutations. The primary endpoint was RECIST response rate (RR). Progression-free survival (PFS) and safety (CTCAE v4) were secondary endpoints. Baseline research biopsies and blood samples were collected for exploratory biomarker endpoints. **Results:** Between February 2015 and July 2019, 22 heavily pretreated (median 5 prior systemic therapies [1-12]) women with *BRCA* mutant HGSOC (median age 58.7 [44-74.8]) received at least one dose of prexasertib. 13 (59%) patients were secondary platinum-resistant (median 8 [3-12] prior therapies) and 9 (41%) maintained platinum-sensitivity (median 4 [1-5] prior therapies). All but one received prior PARP inhibitor (PARPi) either in combination (10 [48%]) or as monotherapy (11 [52%]), with a median 5 month [mo; 1-29] PARPi-free interval prior to study entry. There was one complete response (41+mo, platinum-sensitive, no prior PARPi) and one partial response (9+mo, platinum-sensitive, 13.5mo PARPi-free interval) yielding an 11% RR (2/18 evaluable). No response was seen in platinum-resistant patients with prior PARPi. Median duration on study treatment was 4mo [1-9] among 21 patients with prior PARPi and 4mo [1.5-9] among 17 evaluable patients with prior PARPi. Common (>10%) grade 3/4 adverse events were neutropenia (82%), leukopenia (64%), and thrombocytopenia (14%); only one patient had grade 3 febrile neutropenia. 16 of 18 (89%) patients with grade 3/4 neutropenia received prophylactic growth factors for subsequent treatments. **Conclusions:** Prexasertib is tolerable and has modest activity in heavily pretreated *BRCA* mutant HGSOC patients. Further evaluation of predictive biomarkers for exceptional responders is ongoing. Clinical trial information: NCT02203513. Research Sponsor: U.S. National Institutes of Health, Stand Up To Cancer – Ovarian Cancer Research Fund Alliance – National Ovarian Cancer Coalition Dream Team Translational Research Grant.

6039 Poster Session (Board #210), Fri, 8:00 AM-11:00 AM

Maintenance olaparib plus bevacizumab (bev) after platinum-based chemotherapy plus bev in patients (pts) with newly diagnosed advanced high-grade ovarian cancer (HGOC): Efficacy by BRCA1 or BRCA2 mutation in the phase III PAOLA-1 trial.

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Background: In PAOLA-1/ENGOT-ov25 (NCT02477644), adding the PARP inhibitor olaparib to maintenance bev after first-line platinum-based chemotherapy plus bev led to a statistically significant progression-free survival (PFS) benefit in pts with advanced HGOC (HR 0.59; 95% CI 0.49–0.72) (Ray-Coquard *et al*. 2019). Retrospective subgroup analysis in GOG-0218 (Norquist *et al*. 2018) suggested BRCA mutation (BRCAm) status did not significantly impact the PFS benefit provided by bev. We explored the efficacy of olaparib plus bev by *BRCA1* mutation (*BRCA1*m) or *BRCA2* mutation (*BRCA2*m) in PAOLA-1. **Methods:** PAOLA-1 is a randomized, double-blind, Phase III trial in pts with newly diagnosed, FIGO stage III–IV, high-grade serous or endometrioid OC, fallopian tube or primary peritoneal cancer receiving platinum-based chemotherapy plus bev then maintenance bev. Pts unrestricted by surgical outcome or BRCAm status and in response to first-line therapy were randomized to maintenance olaparib tablets (300 mg bid for up to 24 months) plus bev (15 mg/kg q3w for up to 15 months in total) or placebo plus bev, stratified by first-line treatment outcome and tumor BRCAm status. Investigator-assessed PFS (modified RECIST v1.1) by BRCAm was a predefined analysis. **Results:** Of 806 randomized pts, 160 (20%) had tumor *BRCA1*m, 76 (9%) had tumor *BRCA2*m and 1 (<1%) had both. Median PFS follow-up was 24.1 and 27.4 months in *BRCA1*m and *BRCA2*m pts, respectively. At primary data cutoff, PFS was prolonged with olaparib plus bev versus placebo plus bev in *BRCA1*m pts and *BRCA2*m pts (Table). The percentage of *BRCA1*m pts who received olaparib plus bev and were progression-free at 1 and 2 years was 95% and 73% (vs. 70% and 29% for placebo plus bev) and for *BRCA2*m pts was 89% and 84% (vs. 84% and 53%) (Kaplan-Meier estimates). **Conclusions:** In PAOLA-1, maintenance olaparib plus bev provided a significant PFS benefit versus placebo plus bev in all pts analysed, regardless of whether they had *BRCA1*m or *BRCA2*m. The median PFS in the control arm suggests a role for bev in this subgroup and the hazard ratio versus an active control arm shows the value of adding maintenance olaparib to bev. Clinical trial information: NCT02477644. Research Sponsor: Funded by AstraZeneca, Merck Sharp & Dohme Corp, and F. Hoffmann La Roche, ARCAGY Research.

	No. of pts with events/total no. of pts	Median PFS, months	HR (95% CI)
***BRCA1*m**	33/111	37.2*	0.29
Olaparib + bev	32/49	19.4	(0.176, 0.470)
Placebo + bev			
***BRCA2*m**	7/45	NR	0.23
Olaparib + bev	17/31	24.0	(0.090, 0.541)
Placebo + bev			

*Median unstable due to lack of events. CI, confidence interval; HR, hazard ratio; NR, not reached

6040 **Poster Session (Board #211), Fri, 8:00 AM-11:00 AM**

A randomized multicenter phase II trial to evaluate the safety and efficacy of vaccination with folate receptor alpha (FRα) peptides admixed with GM-CSF as an adjuvant versus GM-CSF alone in patients with platinum-sensitive ovarian cancer (EOC).

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Background: FRα is overexpressed on > 90% of high-grade EOC. We conducted a randomized double-blind multicenter phase II clinical trial to evaluate the safety and efficacy of TPIV200 (a multi-epitope FRα peptide vaccine admixed with GM-CSF adjuvant) versus GM-CSF alone as a control in patients with stage III-IV high-grade platinum-sensitive epithelial ovarian, fallopian tube, or primary peritoneal carcinoma in first complete or partial remission, irrespective of baseline level of FRα expression. **Methods:** Patients with stage III-IV high-grade serous, high-grade endometrioid, carcinosarcoma or poorly differentiated EOC who had previously completed standard upfront therapy without evidence of disease progression and who were within a year of last platinum were randomized 1:1 to intradermal vaccination of TPIV200 versus intradermal GM-CSF alone. The vaccination period included 6 administrations of the study drug at 4-week intervals. Up to 6 booster vaccinations at 12-week intervals were permitted for patients who did not have disease progression. AEs were assessed using CTCAE. Tumor response was assessed via RECIST every 12 weeks. The primary endpoint, progression free survival (PFS), was calculated from date of first vaccination to the date of progression, death or study termination. **Results:** Of 120 patients randomized, 63 (53%) were treated on the TPIV200 arm. The median age at study entry was 63 years (range 37-88). AEs were generally mild. Injection site reaction was more frequent in the TPIV200 (63%) versus GM-CSF arm (39%). The other most common AEs, abdominal pain (25%) and fatigue (23%), were comparable in both arms. At study termination with a median follow-up of 15.2 months (range: 1.2-28.3 months), 68 of 119 intention-to-treat patients had progressed (55% in the TPIV200 arm and 59% in the GM-CSF arm). The median PFS was 11.1 months (95% CI: 8.3-16.6 months) and there was no statistically significant difference in median PFS between the arms (10.9 months with TPIV200 versus 11.1 months with GM-CSF, HR = 0.85 [upper 90% CI = 1.17]). **Conclusions:** Although TPIV200 had a manageable safety profile, the study was terminated for futility after the planned interim analysis. Future development of FRα-targeted therapy will likely focus on the careful selection of patients whose cancers show high FRα expression. Clinical trial information: NCT02978222. Research Sponsor: Marker Therapeutics, Inc.

6041 **Poster Session (Board #212), Fri, 8:00 AM-11:00 AM**

Low rates of *BRCA1* and *BRCA2* testing for patients with ovarian cancer in ASCO's CancerLinQ, a real-world database.

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Background: Ovarian cancer is the deadliest gynecological cancer and has limited screening options for early stage diagnosis. Genetic mutations in genes such as *BRCA1* and *BRCA2* increase the risk of ovarian cancer, and if identified, patients can undergo risk-reducing surgery. It is recommended and well accepted to test any new ovarian cancer patient for genetic mutations, particulary *BRCA1* and *BRCA2*. If a *BRCA1/2* mutation is found in a patient (somatic or germ line), this information can be used to guide therapy. We sought to analyze the characteristics of genetic testing in a real-world database, ASCO's CancerLinQ. **Methods:** We performed a retrospective cohort study using the CancerLinQ Discovery database. Women with ovarian, fallopian tube, or primary peritoneal cancer were identified using ICD9 and ICD10 codes. We included patients diagnosed between 1/1/11 to 12/31/18 and age >18. We included all epithelial histologies including carcinosarcomas and excluded patients without a known histology. **Results:** Of the 2654 patients meeting inclusion criteria, 600 had been tested for a *BRCA1/2* mutation (22.6%). Of those tested, 63% were stage III/IV, 14% stage I/II, and 21.8% an unknown stage. The majority of the histologies were serous (76%), followed by undifferentiated (21.2%). The majority of patients tested were white (69.9%), with 18.8% unknown, and 9.9% black. The rate of a positive *BRCA1* or *BRCA2* mutation in this population was 17.2%. Of the patients with a *BRCA1/2* mutation, the majority had serous histology (87%), followed by 18.5% undifferentiated, and 3.9% transitional cell. The majority of the patients found to have a *BRCA1/2* mutation were age >50 (57.3%). **Conclusions:** Since 2008 evidence-based guidelines have recommended that all ovarian cancer patients be tested for *BRCA1* and *BRCA2* mutations, but in this real-world database only 22.6% have a recorded test. Of those tested, we found a *BRCA1* or *BRCA2* mutation rate of 17.2%. Our data is limited by what is recorded in the database and may not represent the true number of patients tested because of data missing from the EHR; however, these percentages appear similar to previous studies. Not only is testing important for cancer prevention for family members of patients, it now impacts the type of treatments for which these patients are eligible. Since genetic testing remains low at only 22.6% in this population, significant opportunities exist to impact cancer prevention and treatment. Research Sponsor: None.

6042 **Poster Session (Board #213), Fri, 8:00 AM-11:00 AM**

Low expression of gamma-glutamyl transpeptidase 1 is an independent poor prognostic factor in ovarian clear cell carcinoma, in relation to up-regulation of immune suppressive genes and EMT-related genes.

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Background: Ovarian clear cell carcinoma (OCCC) is a distinct entity from other epithelial ovarian cancers such as the most prevalent high-grade serous cancer (HGSC), and often exhibit less sensitivity to platinum-based chemotherapy. Several studies using cell lines have reported that glutathione (GSH) metabolism plays an important role in chemo-resistance of OCCC. Here, we aimed to correlate the prognosis of OCCC and the expression of gamma-glutamyltransferase 1 (GGT1), one of the key enzymes in GSH metabolism. **Methods:** We prepared a FFPE-tissue microarray, and analyzed 56 OCCC patients with the follow-up periods over 3 years. Expression level of GGT1 was evaluated by immunohistochemistry (IHC) using H-score (0-300), and was correlated with clinical outcomes. The prognostic significance was assessed by multivariate analysis using Cox regression model. To investigate the possible related pathways, we performed transcriptome analysis using Ion AmpliSeq Transcriptome Human Gene Expression Kit (Thermo Fisher Scientific) from the frozen tissue specimens collected from 33 ovarian cancer patients including 15 OCCC patients and 18 HGSC patients. **Results:** The OCCC patients were divided into two populations in the histogram of H-score in IHC staining, and the cut-off value was 90; 44 cases showed GGT1-high, and remaining 12 cases were GGT1-low. Follow-up periods, FIGO stage, and optimal surgery rate were not significantly different between two groups. However, platinum-resistant recurrent rate was significantly higher (42% vs. 14%, p=0.027), and overall survival (OS) was significantly shorter (5-year OS; 42% vs. 72%, p=0.0226) in GGT1-low OCCC. Multivariate analysis revealed that low expression of GGT1 was one of the independent poor prognostic factors as well as platinum-drug resistance. In enrichment analysis, the genes related to GSH metabolism, such as SLC3A1, GGT1, CSE, and GPX3 were up-regulated and positively correlated with HNF1B expression in OCCC. The expression level of GGT1 was inversely correlated with that of immune suppressive genes (TGF-b, IFNG, IL10, FOXP3, PD-L1, CTLA4) and epithelial-mesenchymal transition (EMT)-related genes (CDH2, VIM, TWIST1, ZEB1, ZEB2) in OCCC samples. **Conclusions:** Low expression of GGT1 is an independent poor prognostic factor probably in part due to suppression of tumor immunity and induction of EMT in OCCC. Research Sponsor: None.

6043 **Poster Session (Board #214), Fri, 8:00 AM-11:00 AM**

A phase I trial a FR alpha targeted thymidylate synthase inhibitor CT900 exploring four schedules of treatment in expansion cohorts of patients with high-grade serous ovarian cancer.

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Background: CT900 (BTG945/ONX-0801) is a novel small molecule that binds to folate receptor alpha (FRα), is internalized and causes cytotoxicity by thymidylate synthase inhibition. **Methods:** The aims of the expansion cohorts were to determine toxicity, response rates and correlation of the response to FRα expression in patients with HGSOC (NCT02360345). Four expansion cohorts were studied which included: schedule A (6 mg/m^2/q every 2 weeks), schedule B (12 mg/m^2/q every 2 weeks), schedule C (12 mg/m^2/q every 2 weeks with 12 mg dexamethasone IV and 8 mg of dexamethasone for 2 days) and schedule D (12 mg/m^2/q every 3 weeks). Response rates were assessed by RECIST V1.1 and GCIG CA125 response criteria. Patients who were withdrawn for reasons other than toxicity within 8 weeks (cohorts A, B, C) and 12 weeks (cohort D) were not assessable for efficacy. FRα expression was quantified using immunohistochemistry. **Results:** A total of 67 patients were treated in the 4 cohorts (14, 25, 15 and 13 for cohorts A, B, C and D). The median age was 62 (IQR 57 - 68) and the median lines of previous treatment was 5 (range 1 to 13). A majority of patients were platinum resistant. The most common toxicities across all expansion cohorts were: fatigue (51%), nausea (36%), anemia (27%), fever (25%), AST elevation (21%), most of which were grade 1 - 2. Toxicity of special interest included radiological changes of pneumonitis and was 15% in all cohorts (7%, 16%, 27% and 8% in cohorts A, B, C and D, respectively). These changes were grade 1 - 2 in all but one case. RECIST response rates in evaluable patients across the different cohorts were: A 1/8 (13%), B 6/21 (29%), C 5/12 (42%) and D 2/12 (17%). FRα expression in archival tumor tissue was measured in 59/67 patients. Expression was found to be high/medium in 43/59 (73%), low in 7/59 (12%) and negative/very low in 9/59 (15%). In patients with high/medium FRα expression, the RECIST response rates in different cohorts were: A 0/9 (0%), B 6/16 (38%), C 4/12 (33%) and D 1/6 (17%). The CA125 response rate in all patients within cohort B was 13/25 (52%) and 10/16 (63%) in patients with high/medium FRα expression. **Conclusions:** CT900 has shown clinical activity in patients with heavily pre-treated platinum-resistant, high/medium FRα expressing HGSOC. Based on toxicity and efficacy, the schedule of 12 mg/m^2/q2 weekly (schedule B) is the recommended phase II dose for further evaluation in patients with relapsed high/medium FRα expressing HGSOC. Clinical trial information: NCT02360345. Research Sponsor: Carrick Therapeutics;BTG; Onyx.

6044 **Poster Session (Board #215), Fri, 8:00 AM-11:00 AM**

APOLLO: A phase I study of adaptive memory natural killer (NK) cells in recurrent ovarian cancer.

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Background: Human cytomegalovirus (CMV) infection induces a subset of long-lived $CD57^+NKG2C^+$ adaptive NK cells that exhibit enhanced antibody-dependent cellular cytotoxicity and resistance to tumor-suppressive mechanisms. We developed a 7-day culture process using a GSK3 inhibitor and IL-15 to manufacture modulated adaptive NK cells (FATE-NK100) from CMV^+ haploidentical donors for adoptive transfer. The phase I Apollo trial tests the maximum tolerated dose/maximum feasible dose (MTD/MFD) of FATE-NK100 administered intraperitoneally (IP) to treat platinum-sensitive or -resistant recurrent ovarian, fallopian tube, and primary peritoneal cancer. **Methods:** FATE-NK100 via IP port was tested using 3 dose cohorts ([DC]; 1×10^7 cells/kg; $>1 \times 10^7$ cells/kg to $\leq 3 \times 10^7$ cells/kg; or $>3 \times 10^7$ to $\leq 10 \times 10^7$ cells/kg) after lympho-conditioning with fludarabine 25 mg/m^2 IV and cyclophosphamide 300 mg/m^2 IV on days -6 and -5. After FATE-NK100 infusion on day 0, rhIL-2 at 6 million IU was given IP 3 times a week for 6 doses for in vivo NK activation. IP fluid and peripheral blood were collected regularly until response assessment (day 28). Patients with stable disease or better were eligible for retreatment. Pre- and post-treatment tumor biopsies were collected. **Results:** Nine patients were treated with no dose-limiting toxicities (DLTs) to date. Retreatment based on clinical benefit was performed on 3 patients (33%), 2 following stable disease (DC 2) and 1 with partial remission (48% tumor reduction, DC 3). IP samples were collected for PK and functional analysis. FATE-NK100 product was detected by flow cytometry in 5 of 6 patients with evaluable samples (range 4.8%–91.2% donor NK cells at day +5-7). Retreatment samples were available in 1 patient, where FATE-NK100 persisted to day +21, demonstrating that repeated IP dosing did not accelerate clearance of the donor NK cells. In that same patient, measurement of NK cell CD107a degranulation or IFNg production in response to K562 targets demonstrated sustained enhanced in vivo function of FATE-NK100 compared to endogenous patient NK cells (e.g. at Day +12 $CD107a^+$ NK were 39.0% vs. 22.5% cycle 1, and 40.3% vs. 18.2% retreatment cycle 2, and $IFNg^+$ NK were 12.3% vs. 5.9% cycle 1, and 2.4% vs. 0.2% retreatment cycle 2). **Conclusions:** IP delivery of FATE-NK100 is safe, with clinical benefit in 3/9 patients treated. The allogeneic product cells persist and have enhanced function compared to patient NK cells for up to 21 days, even after retreatment. This phase I study in recurrent/refractory ovarian cancer shows promise for IP NK cell delivery. Clinical trial information: NCT00652899. Research Sponsor: Fate Therapeutics.

6045 **Poster Session (Board #216), Fri, 8:00 AM-11:00 AM**

A clinical study of tremelimumab alone or in combination with olaparib in patients with advanced epithelial ovarian cancer.

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Background: Single agent immunotherapy (IO) has shown only modest clinical activity for the treatment of ovarian cancer. The combination of anti-programmed death-1 and PARP inhibitors showed promising activity in early trials. Here, we report the results of an open-label, parallel arm, dose escalation study of tremelimumab (T) alone or in combination with olaparib (O) in patients (pts) with advanced epithelial ovarian cancer (EOC). **Methods:** Pts with recurrent/persistent EOC who had progression < 12 months from last platinum exposure were enrolled. Prior therapy with IO (except anti-CTLA-4) or PARP inhibitor was allowed. Pts were randomized to either T 10mg/kg every 4 weeks (wks) x 7 then every 12 wks (Arm A) or T with O twice daily at three planned dose levels (Arm B). The primary objectives were safety, pharmacodynamic (PD) change in $CD4^{+}ICOS^{hi}$ peripheral T cells by flow cytometry, and identification of the optimal dose combination of T with O. Secondary objectives included 6-month progression-free survival (PFS6) and objective response rate (ORR). **Results:** A total of 24 pts were treated, 12 on Arm A, and 12 on two Arm B dose levels. Pts had a median age of 60 years (range 44-81). Histologic subtypes included high-grade serous EOC (20 pts, 83%), clear cell (3 pts, 13%), and moderately-differentiated adenocarcinoma (1 pt, 4%). BRCA1 mutation (mt) was present in 2 cases, BRCA2 mt in 1. Median number of prior regimens was 3.5 (range 1-9). Most adverse events (AEs) were attributable to T, the most common grade 3 toxicities were rash (13%), immune-mediated hepatitis (8%), and colitis (8%). No grade ≥ 4 toxicities were identified. Immune-mediated AEs also included acute kidney injury, hypophysitis, and hypothyroidism. No dose limiting toxicities were identified on Arm B. Two pts in Arm B had >PFS6. Of 20 pts evaluable for response, there was 1 partial response (Arm B), and 9 pts had stable disease (6 on Arm A, 3 on Arm B). Mean percentage of $CD4+ICOS^{hi}$ T cells was significantly increased on Days 15 and 22 compared to Day 1 at both T dose levels (Table).T at 3 mg/kg with O at 150mg is the optimal dose of those tested. **Conclusions:** T and T with O was tolerable, with modest clinical activity in this pt population. AEs were as expected, and peripheral $CD4^{+}ICOS^{hi}$ T cells increased on therapy. Clinical trial information: 02485990. Research Sponsor: AstraZeneca.

	Percent $CD4^{+}ICOS^{hi}$		
	Day 1	Day 15	Day 22
All Pts	17.9 ± 8.8	40.7 ± 12.1***	39.2 ± 11.8***
T 3mg/kg	18.5 ± 5.6	28.3 ± 6.9***	32.4 ± 12.0***
T 10mg/kg	17.5 ± 8.2	41.2 ± 10.8***	40.0 ± 10.8***

*** $p < 0.0001$ when compared to Day 1

6046 **Poster Session (Board #217), Fri, 8:00 AM-11:00 AM**

Long-term survival outcomes of intravenous versus intraperitoneal chemotherapy in the treatment of advanced ovarian cancer.

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Background: The role of intraperitoneal (IP) chemotherapy in the management of advanced ovarian cancer has been questioned given emerging evidence showing lack of survival benefits. The objective of this study was to compare the long-term survival associated with IP chemotherapy at a tertiary cancer center. **Methods:** We reviewed the long-term survival records of 271 women with stage IIIC or IV high-grade serous ovarian cancer treated with primary cytoreductive surgery (PCS) followed by IP or intravenous (IV) chemotherapy between 2001-2015 with a minimum follow-up of 4 years. 5-year progression free (PFS) and overall survival (OS) rates were compared using Kaplan-Meier survival analysis and covariates were evaluated using Cox regression analysis. **Results:** Women who received IP chemotherapy after PCS (n = 91) were more likely to have undergone aggressive surgery ($p < 0.001$), longer surgery ($p < 0.001$), and had no residual disease ($p < 0.001$) compared to the IV arm (n = 180). Median follow-up was 51.6 months. Five-year PFS was 19% vs. 18% (p = 0.63) and OS was 73% vs. 44% (p = 0.00016) in the IP vs. IV arms, respectively. After controlling for covariates in a multivariable model, the use of IP was no longer a significant predictor of OS in the entire cohort (p = 0.12). In patients with 0mm residual disease, PFS was 28% vs. 26% (p = 0.67) and OS was 81% vs. 60% (p = 0.059) in IP (n = 61) vs. IV (n = 69), respectively. In patients with residual of 1-9mm, PFS was 30% vs. 48% (p = 0.076) and OS was 60% vs. 43% (p = 0.74) in IP (n = 29) vs. IV (n = 31), respectively. **Conclusions:** IP chemotherapy showed a trend towards improved survival over conventional IV chemotherapy, especially in patients with no residual disease. Given the retrospective nature and small numbers in this study, prospective non-randomized cohort studies are warranted to evaluate the role of IP chemotherapy in advanced ovarian cancer. Research Sponsor: None.

6047 **Poster Session (Board #218), Fri, 8:00 AM-11:00 AM**

Phase I study to assess the safety, tolerability, pharmacokinetics/pharmacodynamics and preliminary efficacy of SC10914 in patients with advanced solid tumors.

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Background: SC10914 is a highly selective inhibitor of PARP enzymes, including PARP1 and PARP2. SC10914 has a similar structure with olaparib. We conducted a phase I study to assess the safety, tolerability, PK/PD and preliminary efficacy of SC10914 in patients with advanced solid tumors. **Methods:** This is a phase I dose-escalation study with 3+3 design, we enrolled patients at 4 sites in China. Eligible patients were diagnosed with advanced solid malignancies who are refractory to standard therapies or for which no standard therapy exists; had measurable disease; had adequate organ function. Patients received SC10914 daily at ten escalating doses from 30 mg QD to 500 mg TID in a 28-day cycle. We obtained blood for PK and CA125 assessments. Toxic effects were assessed by CTCAE 4.03 criteria and tumour responses ascribed by RECIST 1.1 and CA125 was assessed by GCIG criteria. **Results:** As of January 2020, 52 patients were enrolled, of which 14 were males and 38 were females. Ten doses were escalated to 500mg TID, and no DLT was observed, and MTD was not obtained. The incidence of grade 3/4 AEs and SAEs that were related to SC10914 were 34.6% (18/52) and 13.5% (7/52). Grade 3/4 adverse reaction happened in at least two patients were anaemia/reduced hemoglobin (10/52, 19.2%), decreased WBC count (5/52, 9.6%), neutropenia (3/52, 5.8%), thrombocytopenia (2/52, 3.8%), and decreased lymphocyte count (2/52, 3.8%). A total of 17 gBRCAm evaluable ovarian cancer patients were enrolled, 6 of them had PR, the ORR was 35.3% (6/17). 10 gBRCAm ovarian cancer patients were enrolled in TID groups (including 2 patients who received BID doses at the beginning and changed to 300 mg TID dose after several cycles of treatment), 5 of them had PR, the ORR was 50% (5/10). The ORR of 400 mg TID group was 66.7%(4/6). PK data showed that the exposure of SC10914 was increased with dose increasing at the dose of 30 mg to 250 mg. The half-life of SC10914 was about 2-5 hours. **Conclusions:** SC10914 was safe in patients with advanced solid tumors. The main toxicity was blood-related adverse reactions. SC10914 was effective in gBRCAm ovarian cancer patients. 400 mg TID might be RP2D. Clinical trial information: NCT02940132. Research Sponsor: Jiangxi Qingfeng Pharmaceutical Co., Ltd, Other Government Agency.

6048 **Poster Session (Board #219), Fri, 8:00 AM-11:00 AM**

Quality of life, vascular endothelial growth factor inhibition, and survival outcomes with combination oral metronomic therapy in platinum refractory epithelial ovarian carcinoma: Results from a randomized study.

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Background: Patients with recurrent and refractory epithelial ovarian cancer (EOC) have dismal outcomes. We evaluated a combination of oral metronomic therapy in platinum refractory EOC vis-à-vis angiogenic marker expression and its impact on patient reported outcomes. **Methods:** Between October 2017 and September 2019, 75 patients were randomized to receive etoposide (VP-16) (50 mg daily for 14 days) cyclophosphamide (50 mg daily for 28 days) (Arm A, n = 38) or etoposide (VP-16) (50 mg daily for 14 days) cyclophosphamide (50 mg daily for 28 days) and pazopanib (400 mg daily 28 days) every 28 days (Arm B, n = 37). Eligibility criteria included histopathological diagnosis of EOC, platinum refractory disease and ECOG performance status 0-2. Primary endpoint was serological progression free survival (PFS) as defined by Rustin criteria. Quality of Life (QoL) (evaluated using the EORTC QLQC30 and OV 28 questionnaires) and serum vascular endothelial growth factor (VEGF) were ascertained at baseline and after 3rd and 6th cycle. Intention to treat analysis was done. **Results:** Baseline characteristics were well matched in 2 arms. At a median follow up 14.4 months (95% CI 13.2-15.7), the median serological PFS is better for patients in Arm B 5.1 months (95%CI 3.13-10.33) compared to 3.4 months (95%CI 3-6.53) in arm A (P= 0.045). Median overall survival (OS) is not reached in arm B versus 11.2 months (95%CI 5.66-NR) in arm A (P= 0.032). Disease progression was seen in 42.1% (n = 16) in Arm A versus 40.5 %(n = 15) in arm B (P= 0.40). Sixteen patients are maintaining response. Mucositis (29.7% n = 11) and fatigue (13.5%, n = 5) were more in the pazopanib-containing arm (P= 0.36). Serum VEGF demonstrated significant decline with subsequent cycles of therapy {median values (range): Arm A, baseline; 466.0 pg/mL(123.9-1930) vs. 6 cycles; 92.05pg/ mL(42.34-279.5) P< 0.0001; Arm B, baseline; 382.0 pg/mL(49.44-2054.0) vs 6 cycles; 119.7 pg/mL(18.20-367.5) P= 0.013} without any difference between the two arms (P= 0.18). QoL symptom scales in both QLQC 30 and OV 28 questionnaires indicated small but significant improvement in pazopanib arm (P= 0.02) without differences in global (p = 0.96) and physical functioning scales. (P= 0.68). **Conclusions:** Addition of pazopanib to etoposide and cyclophosphamide resulted in improvement in serological PFS and OS with a well-tolerated toxicity profile and modest improvement in QoL.Serum VEGF expression requires validation in a larger cohort. Clinical trial information: CTRI/2017/10/010219. Research Sponsor: Department of Health resources (DHR) Grant in Aid scheme, Government of India (Project number R.11012/04/2018).

6049 **Poster Session (Board #220), Fri, 8:00 AM-11:00 AM**

Phase I/II trial assessing hydroxychloroquine and itraconazole in women with advanced platinum-resistant epithelial ovarian cancer (EOC) (HYDRA-01).

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Background: Autophagy is a mechanism of resistance to platinum chemotherapy. Itraconazole (Itr), an antifungal agent, can alter cholesterol-trafficking, leading to accumulation of cholesterol in endosomes/lysosomes and resulting in cancer cell death. Itr is also involved in regulation of angiogenesis, mTOR and Hedgehog pathways. In preclinical studies the Itr effect can be enhanced by combining it with the autophagy inhibitor hydroxychloroquine (H). Drug repurposing studies with Itr have shown a signal of activity in prostate, lung and basal cell carcinoma. **Methods:** A rolling-6 phase I design was used to enroll patients (pts) with platinum-resistant/refractory EOC. Pts received Itr 300mg twice daily (BID) with H as per dose escalation schedule (range 200mg BID- 600mg BID), continuously in a 28-day cycle. Primary objective was establishment of MTD; secondary objective was objective response rate, progression free survival (PFS). Pre- and on-treatment biopsies were mandatory to evaluate exploratory objectives assessing effect on apoptosis/proliferation, angiogenesis, cholesterol metabolism and mechanism of cytotoxicity. RNAseq and IHC was performed in the sequential biopsies. **Results:** 11 pts were enrolled, 9 evaluable for efficacy. Histology was high 91% and low-grade serous 9%. Median lines of prior therapy was 7. RP2D was Itr 300mg BID and H 600mg BID. 1 DLT was seen in dose-level 2 was grade 3 hypertension. Other grade $\geq$3 related toxicity were grade 3 hypokalemia and grade 4 QTc prolongation (1 pt, dose-level 3). No objective responses were observed and 1 pt had stable disease. Median PFS was 1.6 months (1-1.7). Pre- and on-treatment biopsy was available for 10 pts. Increase in autophagy related protein, LC3, P62 and lysosomal marker, LAMP1, expression by IHC was identified in 3 pts. RNAseq revealed no differences between pre and on treatment samples in cholesterol homeostasis, angiogenesis, lysosomal-autophagy, PI3K-mTOR pathways. **Conclusions:** The combination of Itr and H was feasible but did not show antitumour activity in this heavily pre-treated platinum resistant EOC population. Increase of IHC expression in autophagy related proteins was detected in 30% of pts but did not correlate with patient benefit. Clinical trial information: NCT03081702. Research Sponsor: OICR Ovarian TRI grant.

Related AEs seen in >10% of pts.

AE term	Grade 1-2 %	Grade 3-4 %
Nausea	36	0
Diarrhea	27	0
Dry skin	27	0
Fatigue	27	0
Vomiting	27	0
ALT increase	18	0
Anemia	18	0
Anorexia	18	0
AST increase	18	0
Constipation	18	0
QT corrected interval prolonged	9	9
Neutropenia	18	0
Pruritus	18	0
White blood cell decrease	18	0

6050 **Poster Session (Board #221), Fri, 8:00 AM-11:00 AM**

Evaluation of an individualized starting-dose of niraparib in the PRIMA/ENGOT-OV26/GOG-3012 study.

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Background: Niraparib is approved at a fixed starting dose (FSD) of 300 mg QD for maintenance treatment of patients (pts) with recurrent ovarian cancer (OC) achieving a complete or partial response to platinum-based chemotherapy based in the ENGOT-OV16/NOVA study. A post-hoc analysis of NOVA showed baseline bodyweight (BW) and platelet count (PC) were predictive for hematologic toxicities and dose reductions. Following this analysis, the PRIMA/ENGOT-OV26/GOG-3012 study was amended to prospectively evaluate the safety and efficacy of an individualized starting dose (ISD) regimen. **Methods:** This double-blind, placebo-controlled, phase III study randomized 733 pts with newly diagnosed advanced OC with a complete or partial response to first-line (1L) platinum-based chemotherapy. The protocol was amended to change the dose from 300 mg FSD for all patients to an ISD regimen: 200 mg QD in pts with BW $<$77 kg and/or PC $<$150,000/μL or 300 mg QD in pts with BW $\geq$77 kg and PC $\geq$150,000/μL. Exposure, efficacy, and safety data were compared between patients treated with FSD vs ISD. **Results:** Efficacy in the ISD subgroup was comparable to the FSD subgroup relative to placebo (Table). An interaction test showed no treatment difference between ISD and FSD at the pre-specified 0.10 significance level (p=0.30). Medians for dose intensity and relative dose intensity in pts who received niraparib were similar. The overall safety profile among pts in the niraparib arm (n=484), including grade $\geq$3 hematologic toxicities, improved with the ISD. **Conclusions:** The ISD in the 1L maintenance setting provides comparable efficacy to the FSD while reducing the risk of hematologic toxicities. No new safety signals were identified. Clinical trial information: NCT02655016. Research Sponsor: GlaxoSmithKline.

Parameter	Fixed Starting Dose (300 mg)		Individualized Starting Dose (200 or 300 mg)	
PFS	**N=475**		**N=258**	
Hazard ratio	0.59		0.69	
95% CI	0.46–0.76		0.48–0.98	
Dose intensity[a]	**n=315**		**n=169**	
Median, mg/day	181.8		178.6	
Median, relative, %	60.6		66.4	
Grade ≥3 hematologic toxicities,[b] n (%)	**Niraparib n=315**	**Placebo n=158**	**Niraparib n=169**	**Placebo n=86**
Thrombocytopenia event	152 (48)	0	36 (21)	1 (1)
Anemia event	112 (36)	3 (2)	38 (22)	1 (1)
Neutropenia event	75 (24)	2 (1)	25 (15)	1 (1)

[a]Dose intensity is only in pts receiving niraparib.
[b]Combined clinical and laboratory events.

6051 **Poster Session (Board #222), Fri, 8:00 AM-11:00 AM**

Niraparib exposure-response relationship in patients (pts) with newly diagnosed advanced ovarian cancer (AOC).

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Background: Niraparib improves progression-free survival (PFS) in pts with newly diagnosed AOC after complete or partial response to first-line, platinum-based chemotherapy. In the PRIMA/ENGOT-OV26/GOG-3012 (PRIMA) trial, pts were treated with a fixed starting dose (FSD) of 300 mg QD until a protocol amendment introduced the individualized starting dose (ISD) regimen: 200 mg QD for pts with baseline bodyweight (BW) $<$ 77 kg and/or platelet count (PC) $<$ 150,000/μL, or 300 mg QD for pts with baseline BW $\geq$77 kg and PC $\geq$150,000/μL. Here, we developed a population pharmacokinetic (PopPK) model for niraparib and evaluated exposure-response relationships for pts receiving niraparib using safety and efficacy data from PRIMA. **Methods:** The PopPK model for niraparib was developed based on 7418 plasma samples from 1442 pts from 4 studies: PN001, NOVA, QUADRA, and PRIMA. PRIMA PK samples were collected on cycle 1, day 1 (C1D1), C2D1 pre-dose and 2 h post-dose, C4D1, and C8D1 pre-dose (or EOT if patient discontinued before C8D1). The relationship between PopPK model-based prospective exposure (average concentration [C_{ave}] until progression/death) and efficacy (PFS) were evaluated in pts receiving niraparib in both the homologous-recombination deficient (HRd) and overall population. The relationship between model-predicted exposure metrics and incidence of clinically relevant adverse events (AEs) was analyzed using univariate logistic regression in pts receiving niraparib. **Results:** Of 484 pts receiving niraparib in PRIMA, 480 had PK data and were included in the efficacy and safety analysis. The safety exposure-response showed significant associations ($p \leq 0.0128$) between increasing niraparib exposure and increasing probability of experiencing any-grade and grade $\geq$3 AEs, except grade $\geq$3 hypertension. The incidence of AEs, including thrombocytopenia, was lower in pts who received a 200-mg ISD. Efficacy was not compromised in these pts. **Conclusions:** Niraparib exposure was associated with increased risk of select AEs. However, the ISD regimen decreased AE risk without compromising efficacy. Clinical trial information: NCT02655016. Research Sponsor: GlaxoSmithKline.

Population-adjusted indirect treatment comparison (PAITC) of maintenance PARP inhibitor (PARPi) with or without bevacizumab versus bevacizumab in women with newly diagnosed ovarian cancer (OC).

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Background: In patients (pts) with newly diagnosed OC, bevacizumab (B), PARPi, and PARPi + B have shown benefit as maintenance treatment options after platinum chemotherapy response. Phase III trials have demonstrated longer median progression-free survival (PFS) with PARPi + B (PAOLA-1, olaparib [O]; NCT02477644) vs placebo (P) + B and with PARPi alone (PRIMA, niraparib [N]; NCT02655016) vs P. As there are no randomized head-to-head trials comparing PARPi + B vs PARPi, or PARPi vs B, we performed indirect treatment comparison across these regimens. **Methods:** Unanchored PAITC was performed with individual pt data (IPD) from a PAOLA-1 subset comprising pts with stage IV disease, stage III with residual disease after primary surgery, inoperable stage III disease, or any patient who received neoadjuvant chemotherapy. Propensity weights were used to match the baseline (BL) characteristics of the PRIMA population. PRIMA dataset was reconstructed using published PFS curves. Both datasets were pooled; treatment efficacy was assessed by weighted Cox regression and Kaplan–Meier methods. PAITC was performed in all pts (biomarker unselected) and the homologous recombination repair deficiency positive (HRD+; cut-off 42) subgroup. **Results:** 595/806 (266/387 HRD+) PAOLA-1 pts were included. After matching, the effective sample size (ESS) for PAOLA-1 was 532 (242 HRD+; weights 0.241–2.37). Weighted BL data were balanced across cohorts. **Conclusions:** In biomarker-unselected and HRD+ pts, PAITC suggests that adding O to B significantly improved PFS vs. N or B alone. In biomarker-unselected pts, PAITC results show no significant difference in PFS between N and B. In HRD+, improved efficacy with N appears to translate into improved PFS vs. B alone, although follow-up was <2 years (14 vs 22 months, respectively). Results are hypothesis generating and could guide randomized trial design. Clinical trial information: NCT02477644 and NCT02655016. Research Sponsor: AstraZeneca and Merck Sharp & Dohme Corp, a subsidiary of Merck & Co, Inc, Kenilworth, NJ, USA.

PAITC results.

	Treatment	PFS 12 months (%)	PFS 24 months (%)	PFS HR vs P (95% CI)	PFS HR vs B (95% CI)	PFS HR vs N (95% CI)
All pts	O + B, ESS=358*	78	40	0.33 (0.27–0.41)	0.60 (0.49–0.75)	0.57 (0.47–0.69)
	N, n=487†	54	32	0.59 (0.48–0.72)	1.07 (0.86–1.32)	–
	B, ESS=174*	63	23	0.55 (0.44–0.69)	–	–
	P, n=246†	35	23	–	–	–
HRD+	O + B, ESS=163*	88	58	0.23 (0.16–0.33)	0.40 (0.28–0.57)	0.57 (0.41–0.80)
	N, n=247†	71	47	0.41 (0.30–0.56)	0.70 (0.50–0.98)	–
	B, ESS=79*	73	26	0.58 (0.41–0.82)	–	–
	P, n=126†	42	26	–	–	–

*Results from IPD after matching to PRIMA BL data; †Results from estimated IPD.
CI, confidence interval; HR, hazard ratio

6053 **Poster Session (Board #224), Fri, 8:00 AM-11:00 AM**

Hypersensitivity to platinum salts according to BRCA status in ovarian cancer: Retrospective analysis of clinical outcomes.

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Background: Hypersensitivity reactions (HSRs) to platinum salts are an important issue in the treatment of ovarian cancer (OC) patients (pts). Few data suggest that, along with number of previous cycles, germline BRCA mutations could be a risk factor. We aimed at evaluating the incidence and severity of HSRs to platinum salts in a large group of OC pts with known BRCA status and correlated them with drug exposure time. **Methods:** Between March 2003 and September 2019, 432 pts with a diagnosis of OC and a known BRCA status, were recorded in our 5 Institutions and retrospectively analyzed. The following data were collected: histology, BRCA status, type of surgery and first line therapy, number of total lines and cycles received, line and cycle of HSR onset, symptoms, history of other allergies and if desensitization was attempted. We graded the severity of HSRs according to CTCAE v5.0. We calculated the total duration of exposure to platinum salts, summing up the duration of all platinum lines received by the pts. **Results:** Four hundred nine of 432 (94.7%) pts were treated with at least one platinum-based line of therapy and were eligible for the analysis. Among them, 314 pts were BRCA wild type (BRCAwt) (76.8%) and 95 were BRCA mutated (BRCAmut) (23.2%). There was no statistical difference in number of prior lines of therapy [median 1 (2-6) for BRCA wt and 2 (1-6) for BRCAmut pts ($p = 0.194$)] and duration of exposure to platinum [median 126 (42 – 893) and 197 (42 – 896) days for BRCAwt and BRCAmut pts, respectively ($p = 0.145$)]. Incidence of any grade HSRs was 29 / 314 (9.2%) among BRCAwt pts vs. 17/ 95 (17.9%) among BRCAmut pts (Odds ratio [OR] 0.47, 95% CI 0.24 – 0.89, $p= 0.019$). All recorded HSRs to platinum salts were related to carboplatin. We observed a numerically higher incidence of Grade 3-4 HSRs in BRCAmut pts (5.1% in BRCAwt vs. 10.5% in BRCAmut cohort, OR 0.46, 95% CI 0.20 – 1.04, $p = 0.057$). The risk to develop HSRs increases with duration of exposure to platinum, particularly in BRCAmut pts. The cumulative incidence of any grade HSRs was 20.6% vs. 23.3% after 12 months and 38.4% vs. 59.7% after 18 months in BRCAwt and BRCAmut pts, respectively (Hazard Ratio [HR] 1.72, 95% CI 0.94 – 3.12, $p = 0.073$). The cumulative incidence of severe HSRs was 10.9% vs. 15.7% after 12 months and 26.5% vs. 41.0% after 18 months in BRCAwt and BRCAmut pts, respectively (HR 1.88, 95% CI 0.85 – 4.16, $p = 0.11$). **Conclusions:** In BRCAmut OC pts, there is a significantly higher incidence of HSRs to carboplatin, that seems not justified by longer drug exposure only. Research Sponsor: None.

6054 **Poster Session (Board #225), Fri, 8:00 AM-11:00 AM**

Pharmacokinetics and safety following a single oral dose of niraparib in patients with moderate hepatic impairment.

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Background: Niraparib is approved for the maintenance treatment of adult patients (pts) with recurrent epithelial ovarian, fallopian tube, or primary peritoneal cancer who are in a complete or partial response to platinum-based chemotherapy, or with similar cancers but advanced, associated with homologous recombination deficiency (HRD) and have been treated with ³3 prior chemotherapy regimens. Niraparib is extensively metabolized in the liver and eliminated via both hepatobiliary and renal routes. Objectives of this study included characterization of niraparib pharmacokinetics (PK) and safety in pts with normal hepatic function vs. pts with moderate hepatic impairment. **Methods:** This phase I, open-label, parallel-group, single-dose study enrolled pts with advanced solid tumors into 2 groups: normal hepatic function and moderately impaired hepatic function, defined as bilirubin >1.5 to 3 times the upper limit of normal and any aspartate aminotransferase elevation. Pts received a single 300-mg dose and underwent PK sampling for 7 days. Exposure parameters included maximum concentration (C_{max}), area under the concentration-time curve calculated to last measured concentration (AUC_{last}), and extrapolated to infinity (AUC_{inf}). PK parameters were determined using a non-compartmental analysis in WinNonlin. **Results:** Seventeen pts were enrolled; 9 with normal hepatic function and 8 with hepatic impairment. Niraparib C_{max} was 7% lower in pts with moderate hepatic impairment compared with pts with normal hepatic function (Table). Overall exposure was increased in pts with moderate hepatic impairment, with niraparib AUC_{last} and AUC_{inf} increased 45% and 60%, respectively. Safety data during the PK phase of the study is consistent with the known profile for niraparib. **Conclusions:** Pts with moderate hepatic impairment experienced increased niraparib exposure which did not noticeably alter the toxicity profile in this population. Clinical trial information: NCT03359850. Research Sponsor: GlaxoSmithKline.

	NHF GLSM	MHI GLSM	NHF/MHI Ratio, %	90% CI
C_{max} (ng/mL)	594.0	552.7	93.0	63.9–135.6
AUC_{last} (ng·h/mL)	18478.9	26694.3	144.5	101.5–205.6
AUC_{inf} (ng·h/mL)	19707.5	31447.9	159.6	111.4–228.6

GLSM, geometric least squares mean; MHI, moderate hepatic impairment; NHF, normal hepatic function.

6055 **Poster Session (Board #226), Fri, 8:00 AM-11:00 AM**

Laboratory cross-comparison of tumor BRCA1/2 analysis in a multicenter epithelial ovarian cancer series: The BORNEO GEICO60-O study.

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Background: Epithelial ovarian cancer (EOC) identification of *BRCA1* and *BRCA2* mutations is usually carried out in germline, representing around 17% in high grade serous ovarian cancer (HGSOC) and further 5-7% are only identified in the tumor (somatic). The aim of this study was to identify in EOC tumor BRCA mutation frequency and inter-laboratory reproducibility using different Next-generation Sequencing (NGS) approaches. **Methods:** In an ambispective study design, a population of unselected consecutive non mucinous EOC was clinically annotated and Formalin-Fixed Paraffin-Embedded (FFPE) tumor *BRCA1/2* mutation analysis was undertaken in two laboratories (Lab-1 and Lab-2) simultaneously. Both laboratories used their own validated NGS panels; variant allele frequency threshold was 5% for single nucleotide polymorphism and 10% for indels. Each laboratory classified variants into three categories based on ACMG criteria: non-mutated (class 1-2), Variants of Uncertain Significance (VUS: class 3) and likely pathogenic/pathogenic (class 4-5). Germline *BRCA* analysis was available according to local clinical practice or centralized in Lab-1 if histology was low grade. **Results:** Ninety FFPE samples were received, 8 had insufficient material to be analyzed in both laboratories and 6 cases were discarded due to tumor cellularity below 20% leaving 76 cases to be sequenced. The population had a median age of 58 (25-84) years, 87% (66/76) of HGSOC histology and 70% of advanced stages (III-IVB: 53) and 14.5% (11) germline *BRCA* mutations (3 with not available results). Lab-1 identified 17 class 4-5 mutations, 11 correspond to germline, 4 (5.3%) are just somatic and 2 have germline results not available yet. Lab-2 had one not valuable analysis and identified 16 class 4-5 mutations, 10 corresponding to germline and 4 somatic variants. Percentage of concordance between both laboratories was 96% (kappa coefficient 0.883; p value < 0.0001). Three discordant out of 18 class 4-5 mutations included 2 undetected (VAF of 14.9% and 60.3% respectively) and one class 4 in Lab-2 classified as VUS in Lab-1 due to different interpretation criteria. **Conclusions:** The global *BRCA* mutation frequency in our series was 22.3% for Lab-1 and 21.0% for Lab-2. Concordance between tumor *BRCA* mutation analysis was high (96%). Nevertheless, further effort is required on harmonizing the technical and analytical aspects in tumor mutational analysis. Research Sponsor: Astra Zeneca.

6056 **Poster Session (Board #227), Fri, 8:00 AM-11:00 AM**

Cediranib in combination with olaparib in patients without a germline BRCA1/2 mutation with recurrent platinum-resistant ovarian cancer: Phase IIb CONCERTO trial.

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Background: A Phase I trial (NCT01116648) of cediranib (cedi) in combination with olaparib (ola) (cedi + ola) demonstrated an overall response rate of 44% in patients (pts) with recurrent ovarian cancer (OC), including pts without a deleterious or suspected deleterious gBRCAm (non-gBRCAm; Liu *et al. Eur J Cancer* 2013). The subsequent Phase II trial (NCT01116648) showed significant improvement in progression-free survival (PFS) with cedi + ola versus ola monotherapy in recurrent platinum-sensitive OC pts, notably in non-gBRCAm pts (Liu *et al. Lancet Oncol* 2014). We report data from the Phase IIb, single-arm, open-label CONCERTO study investigating cedi + ola in non-gBRCAm pts with recurrent platinum-resistant OC who had received ≥3 previous lines of therapy for advanced OC (NCT02889900). **Methods:** Pts with disease progression <6 months from the last receipt of platinum-based chemotherapy received cedi tablets (30 mg once daily) plus ola tablets (200 mg twice daily) until progression or unacceptable toxicity. gBRCAm pts were ineligible. Primary endpoint: objective response rate (ORR) by independent central review (ICR; RECIST 1.1). Key secondary endpoints: PFS and safety. **Results:** 60 pts from the USA were included (median age: 64.5 years; median number of previous systemic treatment regimens: 4 [range: 2–9]; previous bevacizumab: 53). All pts had high-grade OC (90% serous; 3.3% clear cell; 3.3% endometrioid; 3.3% other). 7% of pts had tumor *BRCA2* (confirmed somatic) mutations, 80% of pts had no tumor BRCA mutation (non-tBRCAm) and 13% of pts were not evaluable for tBRCAm. Five (8%) pts who were non-tBRCAm carried somatic homologous recombination repair gene mutations (FoundationOne Clinical Trial Assay, Foundation Medicine, Inc). The Table shows results of key endpoints. Most common grade ≥3 adverse events (AEs) that occurred in pts were hypertension (30%), fatigue (22%) and diarrhea (13%). 37% of pts reported serious AEs, of which nausea (7%) was most common. Dose interruptions, reductions and discontinuations were caused by AEs in 55%, 18% and 18% of pts, respectively, who received cedi + ola. **Conclusions:** Cedi + ola showed evidence of antitumor activity in heavily pretreated non-gBRCAm pts with recurrent platinum-resistant OC. Toxicity was manageable with dose modifications. Clinical trial information: NCT02889900. Research Sponsor: AstraZeneca and Merck Sharp & Dohme Corp, a subsidiary of Merck & Co, Inc, Kenilworth, NJ, USA.

Endpoint	Cedi + ola (n=60)	95% CI
Confirmed ORR,*† %	15.3	7.2–27.0
Median PFS,* months	5.1	3.5–5.5
Median duration of response,*‡ months	8.3	5.6–10.3
Median overall survival, months	13.2	9.4–16.4

*By ICR; †n=59; ‡n=9

6057 **Poster Session (Board #228), Fri, 8:00 AM-11:00 AM**

Olaparib maintenance monotherapy for non-germline BRCA1/2-mutated (non-gBRCAm) platinum-sensitive relapsed ovarian cancer (PSR OC) patients (pts): Phase IIIb OPINION interim analysis.

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Background: In the Phase II Study 19 trial (NCT00753545; Ledermann *et al. Lancet Oncol* 2014), maintenance olaparib improved progression-free survival (PFS) vs placebo in PSR OC pts, including those in the non-BRCAm subgroup. A significant PFS benefit was also seen with maintenance olaparib vs placebo in gBRCAm PSR OC pts in the Phase III SOLO2 trial (NCT01874353; Pujade-Lauraine *et al*. *Lancet Oncol* 2017). To investigate olaparib maintenance monotherapy in non-gBRCAm PSR OC pts who had received ≥2 previous lines of platinum-based chemotherapy, we performed the Phase IIIb, single-arm, OPINION study (NCT03402841). **Methods:** Pts had high-grade serous or endometrioid OC and had responded to platinum-based chemotherapy. Pts initiated maintenance olaparib tablets (300 mg bid) until disease progression or unacceptable toxicity. Primary endpoint was investigator-assessed PFS (modified RECIST 1.1). Secondary endpoints included PFS by homologous recombination repair deficiency (HRD; assessed with the Myriad myChoice HRD plus test; HRD+ve: score ≥42) and somatic BRCA mutation (sBRCAm) status. An interim analysis was planned after ~135 PFS events. **Results:** 279 pts were enrolled from 17 countries (mean age: 64 yrs); 94.3% were confirmed non-gBRCAm by local testing. At data cut-off (Nov 15, 2019), the median PFS was 9.2 months (95% confidence interval [CI]: 7.6–10.9 months), with 152 PFS events (54.5% maturity). The Table presents PFS outcomes by key subgroups. The median exposure to olaparib was 8.1 months. Grade ≥3 adverse events (AEs) occurred in 72 (26%) pts. 19% of pts reported serious AEs. No deaths related to AEs were reported. AEs led to dose interruption, dose reduction and treatment discontinuation in 39%, 15% and 7% of pts, respectively. **Conclusions:** Maintenance olaparib demonstrated activity in non-gBRCAm PSR OC pts. There were no new safety signals. Clinical trial information: NCT03402841. Research Sponsor: AstraZeneca and Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc., Kenilworth, NJ, USA.

PFS outcomes by key subgroups.

	Subgroup	Events, n (%)	Median PFS, months (95% CI)
HRD/BRCAm status	HRD+ve including sBRCAm, n=128	63 (49)	10.9 (9.1–14.5)
	HRD+ve excluding sBRCAm, n=94	51 (54)	9.7 (8.1–11.1)
	sBRCAm, n=34	12 (35)	14.5 (9.2–NE)
	HRD-ve, n=115	72 (63)	7.3 (5.5–9.1)
Prior platinum regimens	2, n=172	97 (56)	9.2 (7.4–10.9)
	>2, n=107	55 (51)	9.0 (7.2–NE)
Response to last platinum therapy	CR/NED, n=96	45 (47)	10.8 (9.2–13.8)
	PR, n=179	104 (58)	7.4 (7.2–10.8)

CR, complete response; NE, not evaluable; NED, no evidence of disease; PR, partial response

6058 **Poster Session (Board #229), Fri, 8:00 AM-11:00 AM**

The safety and efficacy of weekly paclitaxel and cisplatin chemotherapy for patients with ovarian cancer who developed carboplatin hypersensitivity reaction in previous chemotherapy.

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Background: Carboplatin (CBDCA) hypersensitivity reactions (HSR) often occur in patients with ovarian cancer. Once CBACA HSR occurs, it is difficult to use platinum even though the patients had platinum-sensitive disease and consequently the survival of the patients cannot be prolonged. We had administered weekly paclitaxel and cisplatin (CDDP) chemotherapy (wTP) for patients with ovarian cancer who developed CBDCA HSR in previous chemotherapy. We investigated the safety and efficacy of wTP. **Methods:** We investigated 86 patients with ovarian, fallopian tube, and peritoneal carcinoma who developed CBDCA HSR in previous chemotherapy (paclitaxel/CBDCA) at our institution between 2011 and 2019. After premedication was administered, paclitaxel and sequentially CDDP were administered as one hour infusion, respectively (paclitaxel 80 mg/m^2, CDDP 25 mg/m^2; 1, 8, 15 day/4 weeks). **Results:** The median cycle of the previous chemotherapy of CBDCA was 8 (interquartile range [IQR], 6–11). The grade of CBDCA HSR was 1 in 57 (66%), 2 in 26 (30%), and, 3 in 1 (1%) patient(s). WTP was administered for the first line in 21 (24%), second line in 35 (41%) and third or more line in 30 patients (34%). The median cycles of wTP administration was 4 (IQR, 3–7). We observed that severe CDDP HSR did not occur in any patients and 15 patients (17.4%, grade 1, 10 patients; grade 2, 5) developed CDDP HSR. All CDDP HSR were successfully managed with infusion interruption and Hydrocortisone Sodium Phosphate administration. There was no relation between the grade of CBDCA HSR in the previous chemotherapy and the rate of CDDP HSR (p = 0.363). Progression-free survival and overall survival after administration of wTP were 10.9 months (95% CI: 7.7–17.7) and 25.9 months (95%Ci: 19.0–50.2), respectively. **Conclusions:** 71 patients (82%) who developed CBDCA HSR in previous chemotherapy were able to continue administration of wTP without CDDP HSR. WTP was safe and effective for the patients who developed CBDCA HSR. Research Sponsor: None.

Patient characteristics.

No. of Cycles in previous CBDCA	n	(%)	Grade of previous CBDCA HSR	n	(%)	Line of cisplatin	n	(%)
2–6	28	33%	1	57	66%	First	21	24%
7–12	42	49%	2	26	30%	Second	35	41%
≥13	16	19%	3	1	1%	Third or more	30	35%
			unknown	1	1%			

6059 **Poster Session (Board #230), Fri, 8:00 AM-11:00 AM**

Phase I/II study of weekly topotecan and gefitinib in patients with platinum-resistant ovarian, peritoneal, or fallopian tube cancer.

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Background: The epidermal growth factor receptor (EGFR) is expressed in many types of cancer. Fifty to 70% of epithelial ovarian can overexpress EGFR, and its expression has been correlated with poor prognosis features in many cases. While these tumors are chemosensitive to platinum-based therapy, chemoresistance often develops. We conducted a phase I/II trial to examine the efficacy, safety, and toxicity of gefitinib, a tyrosine kinase inhibitor, combined with topotecan in women with recurrent ovarian cancer with EGFR receptor positivity (1+ or greater). **Methods:** Patients with measurable, recurrent or persistent cancer after treatment with a platinum and paclitaxel-containing regimen were eligible for this study (n = 19). We first used "run-in" dose escalation, in which a conventional 3+3 algorithm was used. Initial treatment was gefitinib 250 mg oral dose daily and topotecan at a dose of 2.0 mg/m^2 on days 1, 8, and 15, with cycles repeated every 28 days. Dose escalations were planned for topotecan (Dose Levels 1–3: 2, 3, 4 mg/m^2) until the MTD was reached. Next, an additional 10 patients with refractory or progressive ovarian cancer were enrolled in the phase II study. **Results:** 19 patients received a total of 61 cycles. Median age was 60 years. Histological types of treated patients included 73% serous (n = 14), 12.5% mixed (n = 2), 12.5% transitional (n = 2) and 6.3% clear cell (n = 1). There were 3 patients treated at dose level 1, 3 patients at dose level 2, and 3 patients treated at dose level 3. The maximum tolerated dose was topotecan 4.0mg/m^2 IV days 1, 8 and 15, and gefitinib 250mg p.o. QD x28 days. Therefore, dose level 3 was used for the Phase II portion of the trial. Of the 19 patients included in the phase I/II, 3 patients were inevaluable for response to therapy due to toxicity, missed therapy or decline in performance status. Of the 16 patients, 81% patients (n = 13) had progressive disease, 12.5% stable disease (n = 2), and 6% partial response (n = 1). We assessed all 19 patients for adverse events; 60% had treatment-related grade 3 events, primarily blood disorders such as anemia (n = 3, 16%), neutrophil count decrease (n = 4, 21%). **Conclusions:** This prospective phase I/II clinical trial failed to show sufficient clinical activity of topotecan in combination with gefitinib in patients with EGFR-positive recurrent ovarian, fallopian tube, or peritoneal cancers. The drug combination was relatively well-tolerated in this cohort. As such, the study did not proceed to the next accrual goal secondary to the lack of response. Clinical trial information: NCT00317772. Research Sponsor: MD Anderson.

6060 **Poster Session (Board #231), Fri, 8:00 AM-11:00 AM**

Whole transcriptome changes correlate to exceptional ovarian cancer responders: A sub-analysis of a HIPEC Phase I trial.

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Background: Advanced stage ovarian cancer patients benefit from hyperthermic intraperitoneal chemotherapy (HIPEC), prolonging overall survival by nearly 12 months. However, molecular changes triggered by HIPEC are not well characterized, and no molecular signatures of response are known. We analyzed early gene expression changes after HIPEC treatment in ovarian tumors. **Methods:** This is an interval subgroup analysis of a single institution Phase I trial using HIPEC with cisplatin 75 mg/m^2 at time of optimal cytoreduction. Snap-frozen biopsies from tumor and normal peritoneum from 20 patients with ovarian cancer before and after HIPEC underwent whole-transcriptome sequencing using Illumina's NovaSeq 6000 for paired 100 base-pair reads. Differential expression analysis comparing post and pre-samples was done to identify significantly changed genes, and pathway analysis was conducted using GSEA. **Results:** Sixty-three genes were differentially expressed ($P < 0.05$, fold change ≥ 2) between pre- and post-HIPEC tumors. Hierarchical clustering analysis of these genes confirmed that all tumors and normal tissues clustered based on pre-HIPEC versus post-HIPEC status, and not based on their patient source. Gene set enrichment analysis using a collection of 50 "hallmark" gene sets revealed that post-HIPEC tumors demonstrate significant upregulation in immune pathways (TNFA signaling via NFKB, coagulation, complement), followed by epithelial-mesenchymal transition, inflammation, apoptosis, hypoxia, angiogenesis, KRAS signaling and JAK/STAT3 signaling. In contrast, post-HIPEC normal tissues exhibited upregulation in cell cycle pathways (Myc targets V2, G2M checkpoint). As expected, both post-HIPEC tumor and normal samples shared upregulation of genes related to inflammatory response. Lastly, post-HIPEC normal samples revealed downregulation of growth and metabolism pathways; in contrast, cell cycle or DNA repair pathways were downregulated in post-HIPEC tumors. Two exceptional-responders with recurrent platinum-sensitive disease (ongoing PFS 47 and 12+ months) demonstrated the most substantial changes in gene expression. **Conclusions:** Exceptional ovarian cancer responders to HIPEC are characterized by extensive gene expression changes; specifically, early HIPEC-induced molecular changes are strongly associated with immune pathways changes, implicating a role for immunotherapy after HIPEC in ovarian cancer. Clinical trial information: NCT01970722. Research Sponsor: None.

6061 **Poster Session (Board #232), Fri, 8:00 AM-11:00 AM**

Anlotinib in patients with recurrent platinum-resistant or refractory ovarian carcinoma: A prospective, single-arm, single-center, phase II clinical study.

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Background: Recurrent platinum-resistant or refractory ovarian carcinoma is difficult to treat, and how to improve the treatment effect of these patients is still an urgent problem to solve. Anlotinib is a new multi-target tyrosine kinase inhibitor and its anti-tumor vascular targets include VEGFR, PDGFR and FGFR. Previous researches have shown clinical antitumor activity of anlotinib in various cancers, including the phase I study on gynecologic tumor. This phase II study (ChiCTR2000029654) aims to further evaluate the safety and efficacy of anlotinib in patients with recurrent or refractory ovarian carcinoma. **Methods:** Patients who have previously received second-line or more chemotherapy, with histopathologically confirmed ovarian high-grade serous gonadal carcinoma (including salpingocarcinoma and peritoneal carcinoma), ECOG 0-2 were considered eligible for enrollment. Anlotinib was administered orally (12 mg qd, d1-14; 21 days per cycle) till disease progression, death or intolerant toxicity. Therapeutic effects are evaluated every 6 weeks. The primary endpoint was objective response rate (ORR) and the secondary endpoints included disease control rate (DCR), progression-free survival (PFS), overall survival (OS), safety and quality of life (QOL). **Results:** Between 2019 March to 2020 January, 15 patients (female) with FIGO histopathological stage IA(6.7%), IIIA (73.3%), IIIC (6.7%) and IV (13.3%) were enrolled and 14 patients were evaluable with a median age of 59 years (range: 47-69). The mean follow-up period is 3.5 months (95% CI: 2.1-4.8). Therapeutic evaluation showed the incidence of partial response, stable disease and progression disease was 14.3%, 57.1% and 28.6% respectively, yielding the ORR of 14.3% (2/14; 95% CI: 1.8%-42.8%) and the DCR of 71.4% (10/14; 95% CI: 41.9%-91.6%). The median PFS was not reached. Most of the occurring AEs were grade 1, including hypertention (57.1%), fatigue (50.0%), hand-foot syndrome (35.7%), hoarseness (14.3%), diarrhea (7.1%), gum-pain (7.1%), decrease in leukocyte count (6.7%) and urine protein (7.1%). Only cancer pain (7.1%) was grade 2. No high grade AE was observed in these 14 patients. Neither unexpected safety signals nor treatment related death occurred. **Conclusions:** Anlotinib showed a promising efficacy with a favourable toxicity profile for patients with recurrent platinum-resistant or refractory ovarian carcinoma. And we will report more results ahout anlotinib in the future. Clinical trial information: ChiCTR2000029654. Research Sponsor: Chia-Tai Tianqing Pharmaceutical Group Co Ltd.

6062 **Poster Session (Board #233), Fri, 8:00 AM-11:00 AM**

Risk stratified multidisciplinary ambulatory management of malignant bowel obstruction (MAMBO) program for women with gynecological cancers: Preliminary results from a prospective single-center study.

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Background: Malignant Bowel Obstruction (MBO) is one of the most common and devastating complications in women with gynecological cancer (GC). There is currently no consensus guideline to improve patient (pt) care in this setting. MAMBO (NCT03260647) is an ongoing prospective study evaluating the clinical implementation of a novel management algorithm for multidisciplinary management of MBO in GC pts. We report preliminary patient outcomes. **Methods:** All GC pts at Princess Margaret Cancer Centre with a confirmed diagnosis of or are at risk of MBO are eligible for enrollment. Participants follow a low fiber diet titrated by severity of symptom and their monthly weight and albumin levels are recorded, along with standardized patient-reported outcome measures (PROMs) at different time points. For pts who develop MBO, inpatient and ambulatory management algorithms are applied using a multidisciplinary and interprofessional care model consisting of nurses, surgeons, oncologists, radiologists, nutritionists, total parenteral nutrition team, social work, and palliative care. Decisions regarding most optimal management strategies are made by this team with regular MAMBO rounds. A retrospective analysis of pts hospitalized with MBO between 2012 and 2017 was performed in order to have a historical comparison for outcome and survival analysis using Kaplan Meier methods. **Results:** Since August 2017, 70 pts have been enrolled in MAMBO. Most had high-grade serous ovarian carcinoma (75%), of whom 68% are platinum-resistant. So far, 36 (51%) developed MBO, 6 of whom had multiple sequential episodes. Mean number of days in hospital with MBO was 10 days (median 7, range 0-45), compared to 18 days (median 9, range 0-134) for historical control ($p = 0.009$). There was no significant loss in weight 6 months from MBO diagnosis but a significant reduction in albumin level by 2.75 g/L after 3 months ($p = 0.005$). PROMs suggest fatigue and general lack of wellbeing were the symptoms with highest distress. Most patients (78%) received chemotherapy following MBO and most received weekly paclitaxel (36%). Median time from first MBO to death was 219 days (95% CI: 101-not reached) for all-comers in MAMBO and 174 days (95% CI: 98-363) for MBO requiring hospitalization, compared to 108 days (95% CI: 79-160) for historical controls ($p = 0.007$ and $p = 0.062$, respectively). **Conclusions:** Patient care and outcomes from MBO seem to be improved in GC pts enrolled in MAMBO compared to historical controls. Clinical trial information: NCT03260647. Research Sponsor: Clinical Cancer Research Unit, Princess Margaret Cancer Centre.

6063 **Poster Session (Board #234), Fri, 8:00 AM-11:00 AM**

Are symptoms distinguishable in ovarian cancer? A nested case control study of insurance claims.

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Background: Over 60% of ovarian cancer cases are diagnosed with Stage III and IV disease. The US healthcare system does not support a standard screening method for ovarian cancer. Our goal was to determine whether certain symptoms based on ICD-9 categories are distinguishable among women diagnosed with ovarian cancer and women without ovarian cancer. **Methods:** Women diagnosed with ovarian cancer were randomly matched 1:1 to women without cancer to support a nested case-control analysis of health insurance claims between 2008 through 2013 from a commercial payer. The following eligibility criteria were applied: 1) 24 years of age or older; 2) continuously enrolled in healthcare plan for a minimum period of 6 months; 3) experienced more than 1 symptom over the observation period; and 4) an observation period of a minimum of 6 months. Symptoms were based on 47 ICD-9 diagnosis codes and categorized specific to pain, abdominal and pelvic, digestive, and bladder. The analysis was based on 1,578 women (789 cases; 789 controls). **Results:** Overall, 90% (n = 1,421) of the women experienced abdominal and pelvic symptoms, and 92% (n = 725) of the women with ovarian cancer visited their physician for this complaint 6-70 months prior to diagnosis, OR 1.66 (CI 1.14 to 2.41; p = .008). Pain was reported as a complaint by cases at nearly 60% (n = 464) and controls at 48% (n = 376); OR 1.75 (CI 1.39 to 2.19; $p < .001$). Symptoms for bladder and digestive combined represented 68% of complaints for both cases (n = 507) and controls (n = 555), p = .024 and p = .298, respectively. Of the 1,578 women, 77% (cases = 621; controls = 595) experienced more than one category of symptoms. Both cases (n = 206) and controls (n = 153) complained of abdomen and pelvic symptoms along with pain; OR 1.54 (CI 1.19 to 1.99; p = .001). A second combination included abdomen and pelvic symptoms with pain and digestive symptoms in 14% of women (cases n = 99; controls n = 67); OR 1.58 (CI 1.13 to 2.22; p = .008). Sixty percent (n = 473) of women with ovarian cancer experienced the majority of associated pre-diagnosed symptoms analyzed for the study. **Conclusions:** Certain recurring symptoms associated with abdomen and pelvic as well as pain appear to indicate an association with ovarian cancer, signifying that symptom awareness remains relevant to this disease that is diagnosed at a late stage and currently does not have routine screening methods to support early detection. Research Sponsor: None.

6064 **Poster Session (Board #235), Fri, 8:00 AM-11:00 AM**

Juvenile granulosa cell tumor: An interim report from the international ovarian and testicular stromal tumor (OTST) registry.

Anne Harris, Alexander Nelson, David Watson, Paige Mallinger, Miranda Langford, Allen Stering, Farheen Turk, Deborah F. Billmire, Dominik T. Schneider, A. Lindsay Frazier, Louis P Dehner, Ashley Hill, Yoav H. Messinger, Kris Ann P Schultz; Children's Hospitals and Clinics of Minnesota, Minneapolis, MN; Children's Hospital & Clinics Minnesota, Minneapolis, MN; Walter Reed Army Med Ctr, Bethesda, MD; Indiana University, Indianapolis, IN; Riley Hospital for Children, Indianapolis, IN; Clinic of Pediatrics, Dortmund, Germany; Dana-Farber Cancer Institute, Boston, MA; Washington University School of Medicine, St. Louis, MO; George Washington University School of Medicine and Health Sciences, Dept. of Pathology, Washington, WA; Children's Hospitals and Clinics of Minnesota, Minneapolis, MN; The International Ovarian and Testicular Stromal Tumor Registry, Children's Hospital and Clinics of Minnesota, Minneapolis, MN

Background: Juvenile granulosa cell tumors (JGCT) are rare sex cord-stromal tumors which occur primarily in children and adolescents. **Methods:** All individuals or proxy caregivers provided informed consent/assent for participation in the International OTST Registry. Clinical data was collected. When available, pathology was centrally reviewed. Staging was evaluated using the International Federation of Gynecology and Obstetrics (FIGO) classification. Kaplan-Meier survival analyses and exact permutation tests were performed. **Results:** Forty-two individuals with ovarian JGCT were enrolled. Median age at diagnosis was 9 years (range 0-27). Most individuals had Stage I disease (Stage Ia=16; Stage Ib=1; Stage Ic=16). Seven individuals presented with higher stage (Stage II=2; Stage III=5). Stage was unknown for 2 individuals. Three-year overall survival (OS) was 88% (CI 77%, 100%) and event-free survival (EFS) was 69% (CI 54%, 88%). At median follow-up time of 25 months (range 0-416), 9 patients (Stage Ia=1, Stage Ic=5, Stage III=3) had recurrent disease. Use of post-operative adjuvant chemotherapy varied by stage and timing of rupture. Of those with Stage Ic JGCT, 2/7 with preoperative rupture and 3/9 with intraoperative rupture recurred. Among individuals with recurrence, median time to recurrence was 11.5 months (range 3-19). Four of 9 individuals with recurrence survived (no evidence of disease n=2; alive with disease n=2). All individuals who died presented with extrapelvic recurrence. Median time from recurrence to death was 10 months (range 2-53). In individuals with recurrence, advanced stage at diagnosis (HR 5.1; p-value 0.087) and recurrence outside the tumor bed (HR Infinity; p-value 0.048) were associated with inferior OS. Three-year OS for individuals with recurrence was 57% (CI 30%, 100%). **Conclusions:** Low stage JGCT is associated with a favorable prognosis, however, recurrence is associated with lower survival rate. Within this series, recurrences presented within 2 years of diagnosis. Novel strategies are needed to address recurrent and extrapelvic disease. Research Sponsor: Pine Tree Apple Tennis Classic Foundation.

6066 **Poster Session (Board #237), Fri, 8:00 AM-11:00 AM**

ctDNA from ascites as an alternative to tumor sampling for HRD (homologous recombination deficiency) testing in ovarian cancer (OC).

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Background: Knowledge regarding HRD status is becoming crucial to guide maintenance strategies for patients with newly diagnosed OC. Unfortunately, for patients (pts) treated with neoadjuvant chemotherapy (NACT), HRD testing on small biopsies from diagnostic laparoscopies (Dx Lap) or interval debulking has a high failure rate. At relapse, biopsies may not be feasible. Aim: Evaluate the feasibility and usefulness of HRD testing on cfDNA from ascites **Methods:** Pts enrolled in a prospective biological study (OvBIOMark) consented to analysis of biological samples obtained as part of routine diagnosis. cfDNA was extracted from 1-2ml of double-centrifuged fresh ascites and subjected to 1) targeted NGS including the most common somatic mutations in high grade ovarian cancer (*TP53*) to confirm presence of tumor cfDNA and 2) SNParray for copy number (CN) analyses to calculate a genomic instability score (GIS) for HRD. **Results:** Thirty four ascites samples were collected from 25 pts with suspected or confirmed OC. For 15/25 pts samples were obtained at Dx Lap, and for 10 pts samples were obtained at relapse. Seven pts underwent repeat ascitic drains during treatment or at relapse. 97% (33/34) of ascitic samples had detectable cfDNA (median = 980ng, range:80-5730ng) even when obtained during chemotherapy. A deleterious mutation was identified in 87% (29/33) of samples with high allelic frequencies (median allelic frequency, AF = 60%; 3.3-87%), confirming that most of detected cfDNA was tumoral. The most common mutation was a *TP53m (*86%; 25/29). We have performed CN analysis on cfDNA from ascites on 17 of these patients to evaluate their HRD status. Ten pts had a high GIS (HRD+), and 7 pts a low GIS (HRD-). The 4 pts with confirmed *BRCA*m included in this study had a high GIS on ascites. When available from the same patient, the CN profiles derived from ascites cfDNA and tumor sampling were superimposable. **Conclusions:** Ascites yields large amounts of cfDNA, which can be confirmed as tumoral based on *TP53* mutation detection. CN analysis on ascitic cfDNA is feasible and can be used to detect the same HRD scar as tumor testing. Ascites is frequent at diagnosis, especially in pts with inoperable disease planned for NACT and could provide a useful alternative to tumor for HRD and *BRCA* testing. Research Sponsor: Institut National du Cancer TransCAN european grant.

6067 **Poster Session (Board #238), Fri, 8:00 AM-11:00 AM**

Laparoscopy compared with laparotomy for comprehensive surgical staging of early ovarian cancer: Results of a retrospective multicenter case-control study.

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Background: The objective of this study was to compare laparoscopy and laparotomy for comprehensive surgical staging of early ovarian cancer in terms of efficacy and oncologic safety. **Methods:** Patients who had laparoscopic staging for early stage (I/II) ovarian cancer between 01/2000 and 10/2018 at the participating sites (Gynecologic comprehensive cancer centers with respective expertise in minimal invasive surgery) were included in this retrospective case-control study. The control group consisted of all patients treated via laparotomy during the study period. Clinical data were abstracted from medical record and recent follow up information were obtained. Comparisons were made between patients regarding surgical parameters and oncologic outcome and multivariate models were used to identify factors independently associated with disease recurrence. **Results:** Among 313 patients, staging was performed via laparoscopy in 208 (66 %) patients and via laparotomy in 105 (34 %) patients. Patients staged laparoscopically were younger (median 52 (15-86) vs. 59 (17-92) vears, $p \leq 0.01$) and had a lower BMI (24.4 (16.5-46.8) vs. 26 (15.5-53.8), $p \leq 0.01$). Regarding surgical parameters, duration of surgery was longer (291 (159-778) vs. 277 (159-690) minutes, $p \leq 0.01$), postoperative hospitalization was shorter (7 (0-27) vs. 9 (0-92) days, $p \leq 0.01$) and postoperative complications were lower in the laparoscopy group. On univariate analysis there were no differences in rates of tumor stage according to FIGO, intraoperative rupture of ovarian cysts (14 % vs. 13 %, p=0.87), number of lymph nodes removed (24 (0-89) vs. 22 (0-96), p=0.81) or any recurrence of disease (14 % vs. 16 %, p=0.52). At a median follow-up of 46 months (0-227), there were no differences in DFS and OS by surgical technique (5yr DFS 82 % (SE 0.04) vs. 83 % (SE 0.05), p=0.43; OS 91 % (SE 0.03) vs. 87 % (SE 0.04), p=0.87). On multivariate analysis route of surgery was not associated with an increased risk of recurrence. **Conclusions:** According to this preliminary analysis, laparoscopic surgical staging in patients with early ovarian cancer seems to be adequate and safe, but a longer follow-up and prospective data are needed to enhance evidence on oncologic outcomes. Research Sponsor: None.

6068 **Poster Session (Board #239), Fri, 8:00 AM-11:00 AM**

Efficacy and safety of olaparib according to age in BRCA-1/2 mutated patients with recurrent platinum-sensitive ovarian cancer: Analysis of the phase III SOLO2 (AGO-OVAR 2.23/ENGOT-Ov21) study.

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Background: Adding olaparib as maintenance treatment to BRCA-1/2 mutated patients (pts) with recurrent platinum-sensitive ovarian cancer (PSOC) has significantly improved progression-free survival (PFS) as well as patient-centered endpoints. As BRCA mutated pts tend to be younger, specific information on efficacy and safety of olaparib for elderly pts is of special interest. **Methods:** 295 pts from the SOLO2 trial that randomly assigned to olaparib or placebo were categorized according to age cutoff at 65 years. The efficacy and tolerability of olaparib relative to placebo within in each age group was assessed based on PFS and toxicity outcomes. Quality of life (QoL) was assessed using EQ-5D-5L descriptive system score and FACT Trial Outcome Index (TOI) and evaluated using generalized estimating equations (GEE) and time without significant symptoms of toxicity (TWiST) analysis. **Results:** Baseline characteristics were similar in pts ≥65 years (N=62; 21%) compared to pts <65 years (N=233; 79%), except for more BRCA2 mutations in elderly pts (39% vs. 23%). There was no significant difference in the magnitude of PFS benefit from olaparib in elderly as compared with younger pts (interaction P=0.33). The PFS adjusted hazard ratio (HR) of olaparib vs. placebo arms were respectively $HR_{\geq 65}$ 0.43 (95%-confidence interval [CI] 0.24-0.81) and $HR_{<65}$ 0.31 (95%-CI 0.22-0.43). Elderly and younger pts also had comparable safety profiles with no significant differences in median time on olaparib treatment (≥65: 27 vs. <65: 33 months), percentage of pts experiencing at least one grade >2 adverse event with olaparib (≥65: 73% vs. <65: 79%), or requiring at least one dose interruption or dose reduction (≥65: 77.5 vs. <65: 77.6%). No differences were found with regards to QoL scores. Quality adjusted TWiST analysis showed only non-significant differences in duration of good QoL under olaparib (≥65: 8.02 vs. <65: 9.24 months, P=0.48). **Conclusions:** In this large cohort of BRCA mutated PSOC pts treated with a PARP inhibitor within a phase III trial, no significant differences were detected in terms of efficacy, safety, and QoL with olaparib treatment for pts ≥65 years compared to younger pts. This information supports the use of PARP inhibitors as maintenance therapy for PSOC pts irrespective of age. Clinical trial information: NCT01874353. Research Sponsor: AstraZeneca.

6069 **Poster Session (Board #240), Fri, 8:00 AM-11:00 AM**

Ovarian cancer clinical trials: Study the studies to terminate the terminations.

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Background: Clinical trials safely expand the arsenal of treatments available to future patients while providing hope to current patients, particularly ovarian cancer patients who often have poor prognoses. Trial termination for lack of efficacy or unacceptable toxicity are consistent with the aim of protecting patients in the pursuit of knowledge, but those are not the only reasons trials terminate early. Understanding why some clinical trials do not achieve their stated goals may aid in the design of future trials. **Methods:** Data were gathered from clinical trials registered to ClinicalTrials.gov. Included trials were interventional (as opposed to observational), were closed between 2004 and 2019, enrolled ovarian cancer patients, had submitted results, and were open at one or more domestic sites. For each trial, data were captured regarding study completion, reason for non-completion (if applicable), sites, phase, sponsor (defined as the study initiator, not necessarily the funder), and intervention type. **Results:** A total of 313 trials were examined, of which 262 met inclusion criteria. Of the 262 evaluable trials, 189 (72%) were completed and 72 (27%) terminated early. The most common reasons for early termination were low accrual (27 trials, 38%), lack of efficacy (15 trials, 21%), or insufficient funding (9 trials, 13%). Five trials (7%) were terminated early due to toxicity. Early phase trials are less likely to complete enrollment, with 11 out of 16 (65%) phase 1 trials, 135 out of 180 (75%) phase 2 trials, and 15 out of 16 (94%) phase 3 trials completed. Trials initiated by an academic center were twice as likely to be terminated early (41/103, 40%) as those initiated by industry (16/80, 20%), with remaining trials initiated by consortia, NCI, or non-academic oncology practices. Terminated trials were open at an average of 11 sites (range 1-317), while completed trials were open at an average of 27 sites (range 1-632). Trials that had multiple types of interventions, for instance a drug and a procedure, had a 34% early termination rate which was higher than the rate for trials with any single type of intervention. **Conclusions:** More than one in four ovarian cancer clinical trials are terminated early, rarely due to treatment efficacy or tolerability. Trials terminated for reasons other than patient outcomes represent a misallocation of resources or a missed opportunity for innovation. Further research is needed to understand the circumstances that allow for clinical trial completion such that available resources maximize patient benefit. Research Sponsor: None.

6070 **Poster Session (Board #241), Fri, 8:00 AM-11:00 AM**

Patterns of progression and subsequent management of patients with *BRCA1/2* mutated platinum-sensitive recurrent epithelial ovarian cancer (EOC) progressing on olaparib versus placebo: the SOLO2/ENGOT Ov-21 trial (NCT01874353).

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Background: Olaparib maintenance is a standard treatment of *BRCA1/2* mutated platinum-sensitive recurrent EOC. Despite improvement in PFS, olaparib (O) resistance often occurs and the optimal management of post-olaparib progression remains undefined. **Methods:** Data of patients who participated in the SOLO-2 trial and progressed were analyzed. Primary objective was to depict the patterns of progression of patients treated with O compared to placebo (P). Secondary objectives include description of post-progression treatments. **Results:** 106/195 (54%) and 80/99 (81%) patients had a RECIST progression in the O and P arms respectively. As permitted in the protocol, 37 (35%) pts continued O despite a RECIST progression and 10 remained on treatment at the date of data base cut-off of the primary endpoint. Median duration of O post progression was 3.2 months (range: 1 to 19.4). In the placebo arm, only 20% of the patients with progressive disease continued placebo during a median of 1.6 months (range:1.1 to 16.1). Patterns of sites of progressive disease were similar in the O and P arms respectively in terms of liver (21% vs 18%), lung (4% vs 3%), lymph node (20% vs 16%) peritoneal (48% vs 32%) or brain metastases (0% vs 2%). Number of sites of relapsing disease were similar in the O and P arm respectively (1 (68% vs 64), $\geq$2 (32% vs 36%). A total of 54 (51%) patients in the O arm and 42 (53%) in the P arm received subsequent platinum-based therapy. In both arms, 8% received bevacizumab and 6% received no further treatment. Median PFS with first post-study platinum-based and non platinum-based therapy were 7.1 months and 5.6 months respectively. In the P arm, 18 (23) patients received PARP inhibitors following the first subsequent chemotherapy. **Conclusions:** Patterns of disease progression and subsequent chemotherapy were similar in patients receiving O or P in the SOLO2 trial. Instead of switching to chemotherapy, continuing O at the time of RECIST progression was an option for 35% of the patients. Clinical trial information: NCT01874353. Research Sponsor: ASTRA ZENECA.

6071 **Poster Session (Board #242), Fri, 8:00 AM-11:00 AM**

Combined regimen of inhalable STING agonist plus chemoimmunotherapy in platinum-resistant or platinum-refratory ovarian cancer: A randomized, open-label, phase II trial.

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Background: Approximately 70% patients with advanced ovarian cancer have a relapse and ultimately succumb to their disease. Treatment options are limited in this context with an unacceptable low response (less than 20%). Immunotherapy with checkpoint inhibitors presented to date are not very convincing with 10-15% response because of inadequate immunity. We previously discovered the critical role of manganese in innate immune sensing of tumors by activating STING signaling. This ongoing, randomized, phase II study is to assess STING agonist plus nPP chemotherapy and anti-PD-1 antibody sintilimab in platinum-resistant/refractory ovarian cancer. **Methods:** Enrolled patients were 2:1 randomizedly assigned to receive nab-paclitaxel (180-220mg/m^2), cisplatin (60-80mg/m^2) and sintilimab 200mg per 3 weeks with (cohort 1) or without (cohort 2) inhalable $MnCl_2$ (0.4mg/kg) daily. Safety was assessed by CTCAE v5.0, and clinical response by MRI or CT every 2 cycles referred to RECIST version 1.1. The primary endpoints were objective response rate (ORR) and safety. Key secondary end points were disease control rate (DCR), progression-free survival (PFS) and overall survival (OS). **Results:** 27 patients were enrolled, and 21 were included in efficacy population by the end of Jan. 2020. All enrolled patients were with heavily treated history, median 4 lines of prior therapy, median 19 cycles of multiagent regimens. The addition of $MnCl_2$ to the combined chemo-immunotherapy did not appear to exacerbate treatment-related adverse events (AEs). The most common AEs are hematological toxicity (87%), nausea (56%) and vomiting (47%) in both two cohorts. All 14 evaluable patients (14/19) from cohort 1 had an effective control (11 PR [78.6%], 3 SD [21.4%]) . Ten patients (71.4%) achieved PR at the first tumor scan assessment. For 8 cases from cohort 2, 7 were assessable and all showed SD, 4 of whom exhibited SD with enlarged lesions and disease progression after 4-cycle treatment. **Conclusions:** $MnCl_2$ administration induced encouraging objective clinical responses (78.6%) and disease control (100%) in relapsed/refractory ovarian cancer. The combined regimen showed accepted and manageable safety profile. Clinical trial information: NCT03989336. Research Sponsor: the National Key Research and Development Program of China (No.2016YFC1303501 and 2016YFC1303504 to WDH).

6072 **Poster Session (Board #243), Fri, 8:00 AM-11:00 AM**

Methylated DNA markers for plasma detection of ovarian cancer: Discovery, validation, and clinical feasibility.

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Background: Effective screening tests for ovarian cancer (OC) are lacking; most cases present at advanced stage and portend poor prognosis. DNA methylation is an early event in carcinogenesis and can be detected in blood plasma samples from cancer patients. In DNA extracted from tissues, we first discovered, then validated discriminant methylated DNA marker (MDM) candidates for OC and subsequently tested independent plasma from women with and without OC. **Methods:** For discovery, DNA from 67 frozen tissues (18 high grade serous (HGS), 18 endometrioid, 15 clear cell (CC), 6 mucinous OCs; 10 benign fallopian tube epithelium (FT); and 19 buffy coats from cancer-free women underwent reduced representation bisulfite sequencing (RRBS) to identify MDMs associated with OC. Candidate MDM selection was based on receiver operating characteristic (ROC) discrimination, methylation fold change, and low background methylation among controls. Blinded biological validation was performed using methylated specific PCR on DNA extracted from independent FFPE tissues from OCs (36 HGS, 22 endometrioid, 21 CC, and 14 mucinous) and 29 FT. Top performing MDMs in tissue were tested using long-probe quantitative amplified signal assays in independent pre-treatment plasma samples from women newly-diagnosed with OC and population-sampled healthy women. A random forest modeling analysis was performed to generate predictive probability of disease; results were 500-fold in silico cross-validated. **Results:** After RRBS discovery and biological validation, 33 MDMs showed marked methylation fold changes (10 to $>$ 1000) across all OC histologies vs FT. The top 11 MDMs (*GPRIN1, CDO1, SRC, SIM2, AGRN, FAIM2, CELF2, DSCR6, GYPC, CAPN2, BCAT1*) were tested on plasma from 91 women with OC (76 (84%) HGS) and 91 without OC; the cross-validated 11-MDM panel highly discriminated OC from controls (96% (95%CI 89-99%) specificity; 79% (69-87%) sensitivity, and AUC 0.91 (0.86 - 0.96)). Among HGS, the panel correctly identified 83%, including 5/6 stage I/II, and the majority of other subtypes (Table). **Conclusions:** Whole methylome sequencing, stringent filtering criteria, and biological validation yielded outstanding candidate MDMs for OC that performed with promisingly high sensitivity and specificity in plasma. Larger plasma-based OC MDM testing studies, with larger numbers of non-HGS histologies are warranted. Research Sponsor: Mayo Clinic Transform the Practice Grant, Other Foundation, Pharmaceutical/Biotech Company, U.S. National Institutes of Health.

OC histology	Serous	Clear cell	Endometrioid	Mucinous	Mixed
N	76	4	8	2	1
Sensitivity at 95% specificity % (95% CI)	83% (73 - 90%)	75% (19 - 99%)	50% (16 - 84%)	50% (13 - 99%)	100% (3 - 100%)

6073 **Poster Session (Board #244), Fri, 8:00 AM-11:00 AM**

Risk of venous thromboembolism in patients receiving neoadjuvant chemotherapy for ovarian cancer.

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Background: To identify the incidence of newly occurring venous thromboembolism (VTE) in patients with ovarian cancer receiving neoadjuvant chemotherapy (NACT). **Methods:** Using our prospectively maintained ovarian cancer database, we identified all ovarian cancer patients who received NACT at our institution from 4/15-9/18. VTE events included clinically diagnosed deep venous thrombosis (DVT) or pulmonary embolism (PE). Patients who presented with VTE prior to induction of NACT or patients on anticoagulation therapy prior to diagnosis were excluded. The incidence of newly occurring thrombotic events were categorized according to treatment phases, defined as 1) NACT prior to interval debulking surgery (IDS); 2) intraoperative and 30-day post-IDS; and 3) adjuvant chemotherapy. **Results:** 290 patients underwent NACT during the study period. Thirty-eight patients (13%) who presented with VTE, 12 (4%) on anticoagulation at presentation, and 4 (1.4%) seeking only a second opinion were excluded from analysis. Of the 236 evaluable patients, the overall rate of VTE during all treatment phases was 15% (35/236). In treatment phase I, 11% (27/236) of patients experienced VTE during NACT. In phase II, an additional 2.5% (6/236) developed VTE in the intraoperative and 30-day postoperative period. In phase III, an additional 0.8% (2/236) experienced a thrombotic event >30 days postoperatively. Sevety-seven percent (27/35) of VTE events occured during phase I. **Conclusions:** Patients receiving NACT for advanced ovarian cancer are at high risk for the development of clinically detectable thromboembolic events. The highest rate of new VTE events was seen during induction of NACT, a phase of treatment traditionally without any prophylactic anticoagulation. Further research regarding the timing of thromboprophylaxis for this patient population is warranted. Research Sponsor: None.

Demographics and clinical features of all patients underwent neo-adjuvant chemotherapy (N=290).

	All patients (N=290)	
Age, years [Median (range)]	61.6	(31-92.6)
Stage		
IIIA	1	(0.3)
IIIB	4	(1.4)
IIIC	89	(29.7)
IV	197	(67.9)
Histology		
Serous	236	(81.4)
Mullerian	39	(13.4)
Clear Cell	4	(1.4)
Carcinosarcoma	4	(1.4)
Low grade serous	2	(0.7)
Endometrioid	1	(0.3)
Mixed	1	(0.3)
Other	3	(1.0)
Genetic testing		
Not Tested	75	(25.9)
Negative	170	(58.6)
Positive	38	(13.1)
BRCA1	22	(7.6)
BRCA2	16	(5.5)
VUS	7	(2.4)
NACT Indications		
Unresectable disease	233	(80.3)
Comorbidity	40	(13.8)
VTE	12	(4.1)
Other	5	(1.7)

Data are expressed as n (%) unless otherwise specified *NACT* neo-adjuvant chemotherapy *VUS*variant of uncertain significance

6074 **Poster Session (Board #245), Fri, 8:00 AM-11:00 AM**

Computerized features of spatial arrangement of tumor-infiltrating lymphocytes from H&E images predicts survival and response to checkpoint inhibitors in gynecologic cancers.

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Background: Immune checkpoint inhibitors (ICI) have demonstrated success in solid tumors. In gynecologic cancers (GC), the response rate is still low (~10-15%) except in MSI-H endometrial cancer (~ 50%). Current biomarkers (e.g. PDL1 expression) have limited utility in identifying benefit from ICI in GC. In this work we evaluated the ability of computational measurements of spatial arrangement of tumor infiltrating lymphocytes (TIL) from H&E slide images in predicting overall survival (OS) and response to ICI in ovarian, cervical and endometrial cancers. **Methods:** The study included 151 patients, including 102 ovarian carcinomas treated with surgery and chemotherapy (D1) and another set (D2) of n=49 patients (n=14 ovarian, n=27 endometrial and n=8 cervical), treated with different ICI agents (Pembrolizumab, Nivolumab, Ipilimumab, Avelumab) in the second line setting. Progressors and non-progressors in D2 were classified according to clinical improvement and radiologic assessment by RECIST. A machine learning approach was employed to identify tumor regions on the diagnostic slides from D1 and D2 and then used to automatically identify TILs within the tumor regions. Subsequently machine learning was used to define TIL clusters based on TIL proximity, and graph network theory was used to capture measurements relating to spatial arrangement of TIL clusters. The multivariable Cox regression model (MCRM) was trained on n=51 patients from D1 to predict OS and then independently evaluated in predicting (1) OS on the hold-out n=51 patients in D1 and (2) response and progression-free survival (PFS) in D2. **Results:** Statistical analysis identified 7 prognostic features relating to interaction of TIL clusters with cancer nuclei. MCRM was prognostic of OS on the n=51 hold out patients in D1 (hazard ratio (HR)=2.06, 95% confidence interval [1.04- 4.07], p=0.008) and predictive of PFS in D2 (HR=2.24, CI=[1.13-4.44], p=0.03). The AUC for MCRM in predicting progression in D2 was 82%. **Conclusions:** Computerized features of spatial arrangement of TILs on H&E images were prognostic of OS and PFS and predicted response to ICI in three gynecological cancers. These findings need to be validated in larger, multi-site validation sets. Research Sponsor: U.S. National Institutes of Health.

	Multivariable analysis	
	HR	p
SpaTIL	2.24 [1.13-4.44]	0.03
Age (>65 vs. <65)	0.97 [0.48-1.96]	0.93
BMI (>30 vs. <30)	1.09 [0.52-2.28]	0.82
Grade (1,2 vs. 3)	1.20 [0.50-2.85]	0.68
Stage at initial diagnosis (1, 2 vs. others)	0.96 [0.43-2.11]	0.91

6075 **Poster Session (Board #246), Fri, 8:00 AM-11:00 AM**

Infiltration of tumor by T cells following treatment with DPX-Survivac and intermittent low dose cyclophosphamide (CPA) leads to clinical responses in advanced recurrent ovarian cancer (OvCa).

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Background: DPX-Survivac is a novel T-cell activating therapy designed to elicit an effective immune response against survivin expressing tumors. Its unique mechanism of action (MOA) facilitates active and sustained uptake of target peptides by APC at the injection site. APCs subsequently present the antigen in local lymph nodes generating survivin-specific T cells that traffic to distant tumor sites and elicit effective tumor cell death. DPX-Survivac is used in combination with intermittent low dose CPA which acts as an immunomodulator of T-cell responses. **Methods:** The study enrolled 22 patients with recurrent, advanced platinum-sensitive and -resistant ovarian cancer. Patients received 2 subcutaneous injections of DPX-Survivac 3 weeks apart and every 8 weeks thereafter, and intermittent low dose CPA for up to 1 year. Paired tumor biopsies were performed prior to treatment and on treatment. Primary endpoints were ORR, DCR and safety. Secondary endpoints include cell mediated immunity, immune cell infiltration in paired biopsy samples, DOR, TTP, OS and biomarker analyses. **Results:** Twenty-two patients were enrolled in the study. Three patients were discontinued prematurely due to early progression leaving 19 patients for response evaluation. The population is heavily pre-treated with a median of 3 lines of prior treatment [range 1 to 8]; 77.3% of patients are platinum-resistant. At the time of data cut-off, 3/19 patients (15.8%) achieved PR and one additional patient met PR on target lesions but had a newly detected lesion; 10/19 patients (52.6%) showed tumor regression on target lesions at >1 scan. The median time on study (N=19) is 131 days [63 to $^{>}$295]. Six patients are still on trial. The clinical responses and benefits observed with treatment are associated with an increase in systemic survivin-specific T cells and tumor immune-infiltration. Moreover, RNAseq analysis on paired tumor tissue revealed an enrichment in cytolytic T-cell signature. The most common AEs were grade 1-2 injection site reactions; 4 treatment-related SAEs were reported. **Conclusions:** DPX-Survivac and intermittent low dose CPA shows promising clinical activity in heavily pre-treated patients with recurrent OvCa. The preliminary results, supported by strong translational data, link the observed clinical benefits with the unique MOA of DPX-Survivac. These clinical results suggest that DPX-Survivac/CPA is an active regimen in OvCa and warrant testing in an expanded cohort of patients. Clinical trial information: NCT02785250. Research Sponsor: IMV Inc.

6076 **Poster Session (Board #247), Fri, 8:00 AM-11:00 AM**

Influence of BRCA pathogenic variants in the benefit of secondary cytoreductive surgery.

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Background: Germline BRCA pathogenic variants are present in 15% to 25% of ovarian carcinoma patients. These tumors are more sensitive to platinum and PARP inhibitor therapy and have a better prognosis. Two retrospective studies with limited number of patients have shown conflicting results regarding the benefit of secondary cytoreductive surgery (SCS) in patients with BRCA mutations. Our aim was to evaluate the impact of SCS in recurrent ovarian cancer according to BRCA status. **Methods:** All patients with ovarian carcinoma with recurrent disease and who were tested for BRCA pathogenic variants treated at a tertiary Cancer Center in Brazil were included. Patients characteristics were compared between patients treated with SCS and not treated with SCS. Cox regression analysis was used to evaluate the impact of SCS on progression free survival (PFS) and the influence of BRCA pathogenic variants on the effect of SCS. **Results:** One hundred and forty patients were included, 49.6% were treated with SCS and chemotherapy and 50.4% treated with chemotherapy only. Patients treated with SCS were younger, presented better performance status, lower CA 125 and longer platinum free interval. After adjusting for relevant covariables SCS was associated with longer PFS (HR 0.53, 95%CI 0.29-0.97, p = 0.039). Germline BRCA pathogenic variants were found in 37 patients (26.4%). No patient was treated with PARP inhibitors. Among non-carriers of pathogenic variants in BRCA, SCS lead to a longer PFS (HR 0.48, 95%CI 0.28-0.81, p = 0.006) but among carriers there was no benefit of SCS (HR 0.84, 95%CI 0.30-2.34, p = 0.735). Test for interaction was not statistically significant (p = 0.359). **Conclusions:** Our study is the second to demonstrate no benefit of SCS among patients with BRCA pathogenic variants and not treated with PARP inhibitor. The only other study to show a benefit of SCS in this group of patients included a limited number of patients and all of them were treated with PARP inhibitors. BRCA germline status might influence the efficacy of SCS, and should be evaluated as a potential biomarker to be assessed together with clinical factors to better select patients for SCS.
Research Sponsor: None.

6077 **Poster Session (Board #248), Fri, 8:00 AM-11:00 AM**

PFS by blinded independent central review (BICR) in the VELIA trial of veliparib (V) plus carboplatin/paclitaxel (CP) and as monotherapy in newly diagnosed patients (pts) with high-grade serous ovarian cancer (HGSC).

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Background: The phase III VELIA trial (NCT02470585) demonstrated statistically significant improvement in PFS per investigator (INV) for V added to CP and continued as maintenance (CPV-V) vs. CP alone in pts with newly diagnosed HGSC in the *BRCA* mutated (*BRCA*m), homologous recombination deficient (HRD), and whole populations. Here we present pre-specified analyses of PFS per BICR. **Methods:** Pts with Stage III-IV HGSC received V or Placebo (PL) with CP (6 cycles) and as maintenance (30 additional cycles). Primary analysis of PFS by INV compared CPV-V to CP alone in the *BRCA*m, HRD, and whole populations. Exploratory analyses of PFS in *BRCA* wildtype (wt) and non-HRD HGSC were performed. Radiologic tumor assessments were also prospectively submitted to an independent central reviewer for blinded assessment per RECIST v 1.1. PFS per BICR and rates of concordance between INV and BICR for determination of disease progression were analyzed. Safety data from the primary analysis were previously reported. **Results:** 1140 total pts were enrolled (CPV-V 382; CP 375). In the whole population, 26% of HGSCs were *BRCA*m and 55% were HRD. Concordance rates between INV and BICR were 68-85% by arm for each population. Analyses of PFS per BICR and per INV were consistent (Table). PFS was prolonged in the CPV-V vs. CP arm in all primary and exploratory populations assessed. **Conclusions:** Analyses of PFS per BICR supported the primary analysis of PFS per INV in the *BRCA*m, HRD, and whole populations, as well as exploratory *BRCA*wt and non-HRD populations. Median PFS per BICR was longer compared to PFS per INV assessments in all populations and in both arms. These findings support the reliability of PFS by INV in ovarian cancer trials. Alternate strategies like audits may be appropriate to support PFS by INV with less time and expense than full BICR. Clinical trial information: NCT02470585. Research Sponsor: AbbVie.

Median PFS per INV and BICR.

	mPFS INV (mo)		mPFS BICR (mo)	
	CPV-V	CP	CPV-V	CP
***BRCA*m**	34.7	22.0	Not reached	28.8
	0.44 [0.28, 0.68] <0.001*		0.44 [0.26, 0.73]	
HRD	31.9	20.5	34.7	22.7
	0.57 [0.43, 0.76] < 0.001		0.60 [0.43, 0.83]	
Whole	23.5	17.3	29.3	19.2
	0.68 [0.56, 0.83] < 0.001		0.64 [0.50, 0.81]	
***BRCA*wt (incl HRD and Non-HRD)**	18.2	15.1	23.6	17.1
	0.80 [0.64, 1.00]		0.73 [0.56, 0.96]	
Non-HRD	15.0	11.5	21.1	13.1
	0.81 [0.60, 1.09]		0.65 [0.45, 0.94]	

*HR [95% CI] and P values by log rank test.

Analyses stratified by residual disease and stage of disease for *BRCA*m, HRD & whole; unstratified for *BRCA*wt & Non-HRD. Whole population stratification incl *BRCA* status, paclitaxel schedule.

6078 **Poster Session (Board #249), Fri, 8:00 AM-11:00 AM**

Elucidating resistance mechanism to PARP inhibitors for the development of novel therapeutic approaches in high-grade serous ovarian cancer.

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Background: PARP inhibitors (PARPi) have been established as a targeted therapeutic approach not only in patients with high-grade serous ovarian cancer (HGSOC) that have genetic loss of function of BRCA1/2-associated DNA repair. However, treatment efficacy varies and neither BRCA mutation, nor homolog recombination deficiency (HRD) status seem to be optimal predictors. Moreover, mechanisms of treatment resistance are poorly understood and novel approaches are urgently required. **Methods:** Here we created gene expression data of HGSOC patients (n = 52) before PARPi treatment to elucidate key signaling pathways of resistance to increase their efficacy in combinatorial therapeutic strategies. We performed a comprehensive bioinformatics analysis of the differentially expressed genes between the 25% extreme responders (n = 26; 13 each group), including gene set enrichment analysis (GSEA) and causal inference analysis with the CARNIVAL pipeline to elucidate the underlying molecular and regulatory mechanisms governing treatment efficacy and resistance. **Results:** In accordance with recent publications, we found higher levels of MYC activity in non-responders and deregulation of the Wnt/ß-catenin signaling pathway resulting in PARPi treatment resistance. The pathway enrichment analysis also revealed specific pathways especially PDGFR, FGFR, PI3K/mTOR and MAPK signaling pathway associated with resistant phenotype. Furthermore, we have identified key kinases, particularly JAK1/2 and SRC that might mediate resistance to PARP inhibition. In addition, differential gene expression analysis revealed folate receptor 1 (FOLR1) to be significantly higher expressed in non-responders ($\log FC = 2.66$; $p < 0.0026$) with the potential as a serum-based biomarker not only for ovarian cancer, as it correlates closely with CA125, but also PARPi treatment efficacy. **Conclusions:** In conclusion, these findings define a network of pathways, that are crucial to mediate mechanism of PARPi resistance and identified key signaling kinases as therapeutic targets in ovarian cancer. Research Sponsor: Institutional research funds, Pharmaceutical/Biotech Company.

6079 **Poster Session (Board #250), Fri, 8:00 AM-11:00 AM**

Financial toxicity and patient-reported outcomes over time: A longitudinal study of women with recurrent ovarian cancer.

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Background: The chronic nature of treatment for ovarian cancer (OC) can place women at increased risk of financial toxicity (FT) from ongoing direct and indirect costs coupled with potential loss of income. We explored FT and its association with anxiety, depression, and quality of life over time in women with recurrent OC. **Methods:** Women with recurrent OC enrolled in a longitudinal study were given the following validated instruments at baseline and every 3 months: FACIT Comprehensive Score for Financial Toxicity (COST), GAD-7 (anxiety), CES-D (depression) and FACT-Ovary. Mixed models were performed on longitudinal data over 12 months of follow-up. Multivariable analysis of demographic data was performed. **Results:** 225 patients were divided into low FT (top 2 terciles, n = 152) and high FT (bottom tercile, n = 73,) by baseline COST scores. The median age was 59 (range 22.9-78.9). There were no significant differences between the groups in regards to marital status, number of people in household or education level. There were significant differences between the low and high financial toxicity groups in terms of median age (low FT = 61 yrs vs. high FT = 54 yrs, $p < 0.0001$); race (5.4% black in low FT vs. 15.1% in high FT, $p = 0.04$), number of children < 18 years in the home (($p = 0.02$), employment status p(< 0.0001) and annual income p(< 0.0001). On multivariable analysis, only income and age remained significantly associated with FT. The mean baseline COST score in the low FT group was 34 vs. 16 in the high FT group. Interestingly, pts with low baseline FT had significant worsening of FT over the 12 month time period while those with high FT had slight improvement over time. Consistently, the high FT group had higher scores on screening measures for anxiety and depression, as well as lower overall quality of life which persisted over time. **Conclusions:** Financial toxicity is a measurable and clinically relevant patient reported outcome. The cohort of women with high FT demonstrated higher mean scores on screening measures for depression and anxiety as well as persistently lower quality of life. Targeted interventions to decrease financial toxicity may provide more global improvements in mental health and quality of life. Research Sponsor: AstraZeneca, U.S. National Institutes of Health.

6080 **Poster Session (Board #251), Fri, 8:00 AM-11:00 AM**

Effect on response to neoadjuvant chemotherapy in high-grade serous ovarian cancer by inhibiting the GAS6/AXL pathway and inducing homologous recombination deficiency.

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Background: Less than 10% of patients with high grade serous ovarian cancer (HGSC) have a complete pathologic response to neoadjuvant chemotherapy. We aimed to identify a biomarker predictive of response to neoadjuvant chemotherapy and to determine if GAS6/AXL inhibition with AVB500 (AVB) could increase platinum response. **Methods:** AVB was supplied by Aravive Biologics. HGSC tumor samples were obtained pre- and post-neoadjuvant chemotherapy. GAS6 expression was measured by tissue immunohistochemistry (IHC) and serum ELISA. Four HGSC cell lines were used for all experiments. Immunofluorescent (IF) assays targeting γH2AX for DNA damage, RAD51, BRCA1, and BRCA2 for homologous recombination (HR) and 53BP1 for non-homologous end joining (NHEJ) were performed. Flow cytometry was used to evaluate RPA binding. DNA fiber assays were performed. In vitro clonogenic assays were done on chemoresistant ovarian tumor cells treated with carboplatin (carbo) +/- AVB and olaparib +/- AVB. Synergy assays were analyzed using Combenefit software. Mouse models were used to evaluate the combination of carboplatin + AVB and olaparib + AVB on tumor burden. **Results:** Patients with high pretreatment tumor GAS6 IHC expression ($>$ 85%) or serum GAS6 concentrations ($>$ 25ng/mL) were more likely to have a poor response to neoadjuvant chemotherapy than those with low GAS6 (P = 0.002). Additionally, high GAS6 concentration was associated with decreased overall survival (24.4 months versus undefined, P = 0.009). Carbo + AVB resulted in decreased clonogenic colonies compared to carbo alone ($p < 0.05$). In vivo tumor mouse models treated with chemotherapy + AVB had significantly less tumor burden than those treated with chemotherapy alone (50mg vs 357mg, P = 0.003). We identified an induction in HR deficiency by a decrease in RAD51, BRCA1, and BRCA2 foci and RPA binding in cells treated with carbo + AVB compared to carbo ($P < 0.05$). There was increase in γH2AX and 53BP1 foci as well as replication fork slowing in tumor cells treated with carboplatin + AVB ($P < 0.01$). We also AVB and carboplatin were synergistic. Olaparib + AVB resulted in decreased clonogenic colonies ($P < 0.05$) and decreased tumor burden in mouse models (76mg vs 171mg, P = 0.03) compared to olaparib alone. **Conclusions:** GAS6 is a potential biomarker predictive of poor response to neoadjuvant chemotherapy in HGSC. Inhibition of this GAS6/AXL pathway with AVB improves sensitivity to traditional neoadjuvant chemotherapy by inducing a homologous recombination deficiency. Research Sponsor: U.S. National Institutes of Health, Other Foundation.

6081 **Poster Session (Board #252), Fri, 8:00 AM-11:00 AM**

Sacituzumab govitecan (SG) in patients (pts) with previously treated metastatic endometrial cancer (mEC): results from a phase I/II study.

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Background: Unselected pts with EC who progressed on prior chemotherapy have a poor prognosis with limited treatment options. SG is a novel antibody-drug conjugate that targets Trop-2, a cell surface glycoprotein highly expressed in many epithelial tumors. It is conjugated to deliver SN-38, the active metabolite of irinotecan, via a proprietary hydrolyzable linker. Preclinical studies show SG has activity against chemotherapy-resistant EC and significant bystander effect against EC with heterogenous Trop-2 expression (Perrone E. *Mol Oncol.* 2019). **Methods:** The phase I/II basket study (NCT01631552) evaluated pts unselected for Trop-2 with advanced solid tumors who received intravenous SG (days 1 and 8 of 21-day cycles), until progression or unacceptable toxicity. CT/MRI scans were obtained at 8-week intervals for response assessment by RECIST 1.1. We report results for mEC pts who progressed after ≥1 prior systemic therapy and were treated with SG 10 mg/kg. Endpoints include safety, objective response rate (ORR), clinical benefit rate (CBR), duration of response (DOR), progression-free survival (PFS), and overall survival (OS). **Results:** 18 mEC pts (all women; 17 white and 1 black; median age 69 years [range, 41–76]) had a median 3.5 (range 2–6) prior lines of therapy. All pts received prior treatment with platinum therapies. At a median follow-up of 12.7 months, the ORR (95% CI) was 22.2% (6.4–47.6), with 4 partial responses. CBR (95% CI) was 44.4% (21.5–69.2), with 8 of 18 pts having either an objective response or stable disease ≥6 months. The DOR of responders ranged from 9.1 to 26.6 months, with 2 of 4 responders having a duration of ≥18 months. Median PFS (95% CI) was 3.2 months (1.9–9.4), and median OS (95% CI) was 11.9 months (4.7–not calculable). Key grade ≥3 TRAEs in the overall basket study safety population (n=495) included neutropenia (28%), neutrophil count decrease (14%), anemia (10%), diarrhea (8%), fatigue (6%), and febrile neutropenia (5%). A similar safety profile was seen in the mEC cohort. **Conclusions:** Median OS in unselected pts with mEC who progressed on prior platinum therapy is ~10 months with an ORR of ~10%. SG monotherapy showed clinical activity in pts with relapsed/refractory mEC, consistent with previous preclinical findings, and support further clinical investigation (NCT04251416). The phase II TROPiCS-03 (NCT03964727) study in pts with metastatic solid tumors selected based on elevated Trop-2 expression by a validated IHC assay will also provide further insights. Clinical trial information: NCT01631552. Research Sponsor: Immunomedics, Inc.

6082 **Poster Session (Board #253), Fri, 8:00 AM-11:00 AM**

Mutation in homologous recombination to predict a better prognosis in endometrial cancer.

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Background: Endometrial cancers have been categorized into four genomic classes by The Cancer Genome Atlas Research Network (TCGA) with comprehensive genomic analysis. However, TCGA molecular subtypes are hard to utilize in clinic as the expensive cost and a simply version of POLE, TP53 genes cannot fully differentiate the four subtypes. Therefore, more convenient and reliable biomarkers need to be identified for clinical practice. **Methods:** Whole-exome sequencing and RNA sequencing data for 515 patients with endometrial carcinomas were downloaded from TCGA. Mutations in 48 genes of homologous recombination repair (HR) signaling were defined as HR mutation. Associations between HR mutation and survival and RNA expression were analyzed.Gene set enrichment analysis (GSEA) were used to invesgate the gene signaling. **Results:** HR mutation was associated with a prolonged disease specific survival (DSS) (HR, 0.39; 95% CI, 0.22-0.71; P = 0.002), progression-free survival (PFS) (HR, 0.46; 95% CI, 0.31-0.68; P $<$ 0.001) and overall survival (OS) (HR, 0.45; 95% CI, 0.28-0.72; P = 0.001) in endometrial cancers. HR mutation was related with clinical characteristics including histological types (P $<$ 0.05). In the multivariable cox proportional hazards regression model including FIGO 2008, histology types, tumor grade and TCGA subtypes, TP53 mutation, POLE mutation, the association between HR mutation and PFS was still significant (HR, 0.48; 95% CI, 0.27-0.86; P $<$ 0.05), which indicating the HR mutation is an independent prognostic factor for PFS. HR mutations were associated with a higher tumor mutation burden. GSEA suggested that HR mutation was involved with the increase of genes related to activated T cells, immune cytolytic activity, and IFN-γ release. In MSS endometrial cancers, *HR* mutation still showed a longer PFS (HR, 0.57; 95% CI, 0.34-0.98; P = 0.04), suggested HR mutation may help predict the effect of immunotherapy in MSS endometrial carcinoma. **Conclusions:** HR mutation was related with a favorable prognosis through increasing T cells signature. Identification of HR mutation by genomic profiling provides a potentially novel and convenient approach for endometrial cancer patients to predict the prognosis independent of TCGA four subtype classifications and provides an inspiration for screening patients who may benefit from ICBs in endometrial cancer in the future. Research Sponsor: None.

6083 **Poster Session (Board #254), Fri, 8:00 AM-11:00 AM**

Lenvatinib (LEN) plus pembrolizumab (PEMBRO) for early-line treatment of advanced/recurrent endometrial cancer (EC).

Vicky Makker, Matthew H. Taylor, Carol Aghajanian, Ana Oaknin, James Mier, Allen Lee Cohn, Margarita Romeo, Raquel Bratos, Marcia S. Brose, Christopher DiSimone, Mark Messing, Lea Dutta, Min Ren, Emmett V. Schmidt, Robert Orlowski, Jodi Alicia McKenzie, Kathryn Gillis, Antonio Casado Herraez; Memorial Sloan Kettering Cancer Center, New York, NY; Providence Cancer Institute, Portland, OR; Vall d'Hebron University Hospital, Vall d'Hebron Institute of Oncology (VHIO), Barcelona, Spain; Beth Israel Deaconess Medical Center, Boston, MA; Rocky Mountain Cancer Center, Denver, CO; Catalan Institute of Oncology, B-ARGO, Badalona, Spain; MD Anderson Cancer Center España, Madrid, Spain; Abramson Cancer Center, University of Pennsylvania, Philadelphia, PA; Arizona Oncology Associates, Tucson, AZ; Texas Oncology, Bedford, TX; Eisai Inc., Woodcliff Lake, NJ; Merck & Co., Inc., Kenilworth, NJ; San Carlos University Teaching Hospital, Madrid, Spain

Background: As part of an ongoing phase Ib/II study (NCT02501096) in patients (pts) with selected solid tumors, LEN (20 mg PO QD) + PEMBRO (200 mg IV Q3W) displayed substantial and durable antitumor activity in advanced EC. In previously treated EC that was not microsatellite instability high (MSI-H) or mismatch repair deficient (dMMR; n=94 pts), the objective response rate (ORR) by independent imaging review (IIR) per RECIST 1.1 was 38.3% (95% CI 28.5–48.9). In this post hoc analysis, we assessed 2 subgroups of pts with previously treated, advanced, non MSI-H or dMMR EC who received LEN + PEMBRO in an early-treatment setting. **Methods:** Pts were examined in 2 subgroups: (1) Pts with only 1 prior line of cytotoxic therapy regardless of surgical stage or setting (adjuvant treatment for local-regional disease or treatment for metastatic disease); and (2) pts from subgroup 1 with local-regional disease at diagnosis who received only adjuvant cytotoxic therapy. There were no restrictions on prior hormonal or chemoradiation therapies in either subgroup. Tumor responses were assessed by IIR per RECIST 1.1. **Results:** Subgroup 1 included 63 pts and subgroup 2 had 21 pts. ORR (95% CI) was 41.3% (29.0–54.4) for subgroup 1 and 57.1% (34.0–78.2) for subgroup 2. Additional efficacy outcomes are summarized in the table. In subgroup 1, treatment-related adverse events (TRAEs) occurred in 62 (98%) pts (42 [67%] ≥ grade 3). TRAEs led to study-drug interruption of one or both drugs in 43 (68%) pts and dose reductions of LEN in 42 (67%) pts; 12 (19%) pts discontinued one or both drugs due to a TRAE. Serious TRAEs occurred in 18 (29%) pts and 2 (3%) pts died from a TRAE. The safety profile for subgroup 2 was generally similar to the profile for subgroup 1. **Conclusions:** The efficacy of LEN + PEMBRO for early-line treatment of advanced non MSI-H or dMMR EC appears promising. No new safety signals have emerged. A phase III study of LEN + PEMBRO vs paclitaxel + carboplatin for first-line treatment in advanced or recurrent EC is underway. Clinical trial information: NCT02501096. Research Sponsor: Eisai Inc., Woodcliff Lake, NJ, USA and Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc., Kenilworth, NJ, USA.

	Subgroup 1 (n=63)	Subgroup 2 (n=21)
ORR, n (%)	26 (41.3)	12 (57.1)
(95% CI)	29.0–54.4	34.0–78.2
Complete response	8 (12.7)	5 (23.8)
Partial response	18 (28.6)	7 (33.3)
Median duration of response, months (95% CI)	NE (6.2–NE)	NE (2.9–NE)
Median progression-free survival, months (95% CI)	7.5 (4.4–8.9)	8.3 (4.4–NE)
Median overall survival, months (95% CI)	18.3 (15.0–NE)	NE (13.2–NE)

NE, not estimable.

6084 **Poster Session (Board #255), Fri, 8:00 AM-11:00 AM**

Human epidermal growth factor 2 (HER2) in early stage uterine serous carcinoma: A multi-institutional cohort.

Britt Kristina Erickson, Omar Najjar, Molly Klein, Maryam Shahi, Michelle Dolan, Ashley Cimino-Mathews, Anthony Grandelis, Natalia Buza, Paris Delaney, Joan Tymon-Rosario, Alessandro Santin, James Stuart Ferriss, Rebecca Lynn Stone, Amanda Nickles Fader; University of Minnesota, Minneapolis, MN; Johns Hopkins University, Baltimore, MD; Johns Hopkins School of Medicine, Baltimore, MD; Yale School of Medicine, New Haven, CT; Hopkins University, Baltimore, MD; Yale University School of Medicine, New Haven, CT

Background: Uterine serous carcinoma (USC) is a rare and aggressive malignancy, accounting for 40% of all endometrial cancer deaths. Human Epidermal Growth Factor Receptor 2 (HER2) has emerged as an important prognostic and therapeutic target in USC. Given recent randomized trial results, HER2-directed therapy is now recommended in advanced-stage or recurrent, HER2-positive disease. The significance of tumoral HER2 expression in early-stage disease has not yet been established. **Methods:** In this IRB-approved, retrospective, multi-institutional cohort, women diagnosed with stage I USC from 2000-2018 were identified. Patient demographic, treatment, and survival data were collected. Immunohistochemistry (IHC) was performed for HER2 and scored 0-3+. Equivocal IHC results (2+) were further tested with in-situ hybridization (ISH) per the 2007 ASCO-CAP HER2 breast cancer guidelines. HER2 overexpression ("positive") was defined as 3+ IHC or ISH positive. Kaplan-Meier analyses and Cox-proportional hazards were used to compare survival between the cohorts. **Results:** In total, 173 patients with stage I USC were tested for HER2; 25% were HER2-positive, 77.4% had stage IA and 22.6% had stage IB disease. Adequate clinical follow up was available for 168 patients. There were no significant differences in age, race/ethnicity, body mass index, surgical management, sub-stage, tumor size, adjuvant therapy, or follow-up duration between the HER2-positive and negative cohorts. On univarite analysis, presence of lymph-vascular space invasion was correlated with HER2-positive tumors (p=0.003). After a median follow-up of 50 months, there were 41 (24.4%) recurrences. Significantly more recurrences were observed in the HER2-positive cohort (47.6% vs. 16.7%, $p<0.001$). HER2 overexpression was also associated with poorer progression-free (PFS) and overall survival (OS) ($p<0.001$ and p=0.012). After adjusting for prognostic factors including sub-stage and adjuvant treatment, those with HER2-positive tumors experienced inferior PFS (aHR 3.67, 95%CI 1.92-6.98; $p<0.001$) and OS (aHR 2.03, 95%CI 1.03-4.01; p=0.042) compared to HER2-negative tumors. **Conclusions:** Uterine serous carcinoma is a poor prognostic tumor, even in patients with early-stage disease. Given its significant association with worse survival outcomes, tumoral HER2 over-expression appears to be a prognostic biomarker in women with stage I disease. These data provide rationale for clinical trials with HER2-directed therapy in early-stage uterine serous carcinoma. Research Sponsor: U.S. National Institutes of Health.

6085 **Poster Session (Board #256), Fri, 8:00 AM-11:00 AM**

An open-label, multicenter, phase Ib/II study of rebastinib in combination with paclitaxel in a dose-expansion cohort to assess safety and preliminary efficacy in patients with advanced or metastatic endometrial cancer.

Filip Janku, Erika Paige Hamilton, Christina Chu, Debra L. Richardson, Rebecca Christian Arend, Keisuke Kuida, Haroun Achour, Rodrigo Ruiz-Soto, John L. Hays; Department of Investigational Cancer Therapeutics, Division of Cancer Medicine, MD Anderson Cancer Center, Houston, TX; Sarah Cannon Research Institute and Tennessee Oncology, Nashville, TN; Fox Chase Cancer Center, Philadelphia, PA; Stephenson Cancer Center University of Oklahoma Health Sciences Center and Sarah Cannon Research Institute, Oklahoma City, OK; University of Alabama at Birmingham, Birmingham, AL; Deciphera Pharmaceuticals, Inc, Waltham, MA; The Ohio State University Wexner Medical Center, Columbus, OH

Background: Rebastinib is a switch control inhibitor targeting tunica interna endothelial cell kinase (TIE2). TIE2 is primarily expressed in endothelial cells playing a role in angiogenesis. TIE2 is also expressed in a subset of macrophages with pro-metastatic and immunosuppressive properties and linked to chemo-resistance. This study is a 2-part open-label, phase Ib/II, multicenter study of rebastinib orally administered, in combination with paclitaxel. In Part 1, we observed encouraging antitumor activity of rebastinib with 5 PRs in 24 patients (pts) at 50 mg BID and 3 PRs in 19 pts at 100 mg BID from a heavily pretreated heterogeneous patient population. Here we summarize preliminary results from the endometrial cancer (EC) cohort of Part 2. **Methods:** Part 2 of this study has four disease-specific cohorts (TNBC, inflammatory breast cancer, ovarian cancer and EC). Pts were evaluated for safety (CTCAE v5.0) and efficacy (RECIST v1.1). According to the Simon 2-stage design of this study, for each cohort, 15 additional pts will be enrolled if more than 4 PRs are observed. **Results:** As of Jan 21, 2020, 19 EC pts were enrolled with a median age of 66 years. All pts received at least one prior line of paclitaxel and 12 (63%) pts received >3 prior anti-cancer therapies. Sixteen pts were treated with rebastinib starting dose 100 mg BID (reduced to 50 mg BID due to a higher frequency of muscular weakness) and 3 pts with 50 mg BID, in combination with 80 mg/m^2 weekly paclitaxel with a median duration of treatment 85 days (6, 225). In 15 evaluable pts, there were 5 PRs (4 confirmed) and 6 $SD_{8\ weeks}$ for an ORR of 33% and clinical benefit rate of 73%. Treatment-emergent AEs ($>20\%$) were mostly $\leq$ grade 2: constipation, fatigue (each n=9); alopecia, peripheral edema (each n=8); dysgeusia, peripheral sensory neuropathy, arthralgia (each n=6); diarrhea, hypomagnesaemia, vomiting, dry mouth (each n=5); anemia, decreased appetite, dyspnea, nausea, and muscular weakness (each n=4). Serious AEs possibly related or related to rebastinib included muscular weakness (n=2, at 100 mg BID), head discomfort (n=1) and increase troponin (n=1) which resolved after dose interruption. **Conclusions:** Preliminary activity of rebastinib in combination with paclitaxel was encouraging in heavily pretreated EC pts, all of whom received prior paclitaxel. The safety profile of rebastinib at 50 mg BID was generally well tolerated. The EC cohort is enrolling at 50 mg BID in stage 2 of the study. Clinical trial information: NCT03601897. Research Sponsor: Deciphera Pharmaceuticals, Inc.

6086 **Poster Session (Board #257), Fri, 8:00 AM-11:00 AM**

Clinical outcomes of MSI-high (MSI-H) versus stable (MSS) endometrial carcinoma (EC) after front-line platinum chemotherapy and subsequent matched therapy.

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Background: Precision oncology approaches in EC patients (pts) are evolving with emerging targeted therapy. We reviewed the effect of genomic findings on treatment choice and outcome in an Asian EC cohort. **Methods:** Recurrent or metastatic ECs were prospectively profiled with next-generation sequencing (NGS) and relevant immunohistochemistry. Clinical data were collected to assess outcomes. **Results:** Between 12/2014 to 12/2019, 51 Asian EC pts of endometrioid (26/51), serous (7/51), carcinosarcoma (4/51), clear cell (4/51) and mixed (10/51) histology were enrolled. 35/51(69%) of tumors were high grade. The median age at diagnosis was 56 (range 37-77), and the median lines of treatment received was 3 (range 1-8). 45/51(88%) of pts had successful NGS profiling, 31/45(69%) using FoundationOne CDx, and 14/45 (31%) on an in-house platform. Frequent mutations (>20%) occurred in *PTEN* (60%), *PIK3CA* (49%),*TP53* (46%), *ARID1A* (27%), *CTNNB1* (24%) and *KRAS* (22%). There were 12/51(24%) MSI-H, 25/51(49%) MSS, and 14/51(27%) MSI-unknown tumors. The 6 mth progression free survival (PFS) rate for MSS versus MSI-H pts treated with front-line carboplatin+paclitaxel (CP) was 83% versus 50% (RR 1.67, fisher's exact 2-sided p=0.09), with a shorter median PFS after 1st line CP for MSI-H versus MSS pts (median 5.2 mth vs. 8.3 mth, not sig). Upon progression, 29/51(57%) of pts were matched to therapy based on tumor profiles. Of these, 7/29(24%), 13/29(45%) and 9/29(31%) matched to anti-PD1/PD-L1, endocrine therapy and other targeted therapy, respectively. Among 7 MSI-H pts matched to anti-PD1/PD-L1 therapy, median PFS was 14.6 mth (95% CI 0.4-29), and objective response rate was 57%(4/7). In subsequent-line, matching to endocrine therapy (HR 4.3 95% CI 0.95-19.0, p=0.06) or other targeted therapy (HR 5.1, 95% CI 1.1-24.5, p=0.04) was associated with worse PFS compared to anti-PD1/PD-L1 therapy. Despite a short median PFS after front-line CP, median overall survival (OS) was not reached for MSI-H pts, compared to 38 mth (95% CI 30.7-46.0) for MSS and MSI-unknown pts. **Conclusions:** MSI-H EC pts appear to have shorter PFS to front-line CP chemotherapy compared with MSS pts, but may derive durable responses from immunotherapy in subsequent-line therapy. Early use of immunotherapy in advanced MSI-H EC pts should be considered. Further optimisation of therapy is urgently needed in advanced MSS EC. Research Sponsor: National Medical Research Council Singapore, NMRC/CSA-INV-0016/2017.

6087 **Poster Session (Board #258), Fri, 8:00 AM-11:00 AM**

Randomized phase II study of sapanisertib (SAP) + paclitaxel (PAC) versus PAC alone in patients (pts) with advanced, recurrent, or persistent endometrial cancer.

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Background: SAP (TAK-228, MLN0128) is a selective dual inhibitor of mammalian target of rapamycin complexes 1 and 2. In endometrial tumor xenograft models, SAP+PAC exhibited stronger antitumor efficacy than PAC alone. **Methods:** Female pts with histologic/cytologic diagnosis of endometrial cancer were randomized to receive SAP 4 mg by mouth (days [d] 2–4, 9–11, 16–18, 23–25) plus PAC 80 mg/m^2 intravenously (d 1, 8, 15), or PAC alone, in 28-day cycles until unacceptable toxicity or disease progression. Randomization was stratified by histologic subtype, lines of prior chemotherapy (1 vs. 2), and prior taxane therapy. The primary endpoint was progression-free survival (PFS); secondary endpoints included overall survival (OS), overall response rate (ORR), clinical benefit rate (CBR; ORR + stable disease), and safety. Additional treatment arms of SAP alone (weekly dosing) and SAP+TAK-117 were closed after futility analyses. **Results:** 180 pts were randomized to SAP+PAC (n=90) or PAC (n=90); 86 and 87 pts received SAP+PAC and PAC, respectively; 3 pts from each arm were ongoing on treatment at data cut (30 July 2019). Baseline characteristics were balanced between arms. After a median follow-up of 17.2 vs. 14.4 mos with SAP+PAC vs. PAC, median PFS was 5.6 mos vs. 3.7 mos (hazard ratio [HR] 0.82; 95% CI 0.58–1.15). In pts with endometrioid histology (n=116), median PFS was 5.7 mos with SAP+PAC vs 3.3 mos with PAC (HR 0.66; 95% CI 0.43–1.03). In pts with nonendometrioid histology (n=64), median PFS was 3.6 mos with SAP+PAC vs. 5.4 mos with PAC (HR 1.09; 95% CI 0.62–1.90). Median OS was 13.7 mos with SAP+PAC vs. 14.6 mos with PAC (HR 1.01; 95% CI 0.67–1.53). Confirmed ORR was 24% with SAP+PAC vs. 18% with PAC (endometrioid, 23% vs. 16%; nonendometrioid, 28% vs. 22%); CBR was 80% vs. 58% (endometrioid, 84% vs. 55%; nonendometrioid, 72% vs. 63%). Median number of cycles received was 5 (range 1–23) with SAP+PAC and 4 (range 1–37) with PAC. Rates of grade ≥3 treatment-emergent adverse events (TEAEs) were 90% with SAP+PAC vs. 54% with PAC; the most common included anemia (21% vs.12%), neutropenia (12% vs. 3%), fatigue (12% vs. 5%), hypophosphatemia (12% vs. 1%), and pulmonary embolism (11% vs. 3%). **Conclusions:** Median PFS was longer with SAP+PAC vs. PAC in pts with endometrial cancer but did not reach statistical significance. PFS was particularly longer in the endometrioid subtype but again was not significant, and further studies are warranted. Incidence of grade ≥3 TEAEs was higher with SAP+PAC vs. PAC, but SAP+PAC toxicity was manageable, with no new safety signals. Clinical trial information: NCT02725268. Research Sponsor: Millennium Pharmaceuticals, Inc., a wholly owned subsidiary of Takeda Pharmaceutical Company Limited.

6088 **Poster Session (Board #259), Fri, 8:00 AM-11:00 AM**

Preoperative chemotherapy for advanced endometrial cancer-registry analysis of outcomes.

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Background: Hysterectomy followed by risk-adjusted adjuvant treatment is the standard of care for staging and treatment of locally advanced endometrial cancer. Up-front surgery is difficult in some locally advanced cases with extensive local invasion since negative margins may not be achievable. Pre-operative systemic treatment may be used to shrink the tumor and facilitate resection, echoing the experience from ovarian cancer. There is limited data for this paradigm in endometrial cancer. **Methods:** The National Cancer Database (NCDB) was queried for cases with FIGO stage III/IV endometrial cancer (serous, clear cell, or endometrial histology) who underwent surgery and had known chemotherapy/radiation sequencing. Those who received pre-operative chemotherapy +/- post-operative chemotherapy (PreCT) were compared to those who received post-operative chemotherapy alone (PostCT). PreCT cases were considered to be initially borderline resectable or unresectable. Downstaging was determined by comparing clinical and pathologic T-stage. Univariable (UV) and multivariable (MV) analyses were performed, with statistically significant values reported. **Results:** 12,310 cases in PostCT and 1,059 cases in PreCT were included in the analysis. Pre-CT cases were more likely to have higher AJCC T-stage, clinically positive nodes, serous histology, higher grade, and positive surgical margins (28% compared to 16%). Overall survival (OS) was lower for PreCT compared to PostCT (HR = 2.18 UV; HR = 1.87 MV). 20% of patients who received PreCT were down-staged compared to 2% in PostCT group. Patients who were downstaged with PreCT were more likely to achieve negative margins (OR 0.36 UV) and had improved OS compared to those whose stage did not change (HR = 0.61 UV; HR = 0.37 MV). Positive margins portended worse OS for both PreCT (HR = 1.93 UV) and PostCT (HR = 2.63 UV). Negative margins in PreCT had improved OS compared to positive margins in PostCT (HR = 1.2 UV; 2.67 MV). Post-operative radiation benefited both PreCT (HR = 0.45 UV; HR = 0.34 MV) and PostCT groups (HR = 0.48 UV; HR 0.64 MV). **Conclusions:** Preoperative chemotherapy increased the number of patients who were downstaged and those who were downstaged were more likely to achieve a negative margin. Patients who achieved negative margins in PreCT had improved OS compared to those with positive margins in PostCT. Adjuvant radiation further improved OS in both cohorts. Pre-operative chemotherapy can be considered for patients with unresectable/borderline resectable locally advanced endometrial cancer. Research Sponsor: None.

6089 **Poster Session (Board #260), Fri, 8:00 AM-11:00 AM**

Uterine cancer histology and stage at presentation in black and white women: A cohort study of 488,000 patients.

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Background: Although mortality among black women diagnosed with uterine cancer is higher than in white women, the reason for this difference is not completely understood. We proposed to investigate the differences in the incidence and presentation of uterine cancer histology among black women compared to white women. **Methods:** Data were obtained from the United States Cancer Statistics (USCS) and the National Cancer Database (NCDB) between 2004 and 2016. Chi-squared tests were used for statistical analyses. **Results:** Of 488,811 patients with uterine cancer, 411,904 (84.3%) were white and 51,093 (10.5%) were black. Based on USCS data, the incidence of endometrioid carcinoma in white women was 19.63 (per 100,000 per year) compared to 12.53 in black women. However, the incidence of high-risk histologies was higher in black women, particularly for serous tumors (3.32 vs. 1.29), clear cell tumors (0.59 vs. 0.31), carcinosarcoma (2.88 vs. 1.05), and leiomyosarcoma (1.02 vs. 0.48). Using the NCDB database, we evaluated the proportion of these histologies based on race. Compared to white women, black women have a higher proportion of serous (14.2% vs. 5.6%), clear cell (2.4% vs. 1.3%), carcinosarcoma (12.3% vs. 4.5%), and leiomyosarcoma (4.3% vs. 1.7%). black women were less likely to have endometrioid (52.7% vs. 75.9%) and mucinous (0.4% vs. 0.8%) tumors. In addition, black women were more likely to have stage III or IV disease at presentation when all histological subtypes were combined (22.8% vs. 17.7%). However, of those with endometrioid and grade 1 tumors, black women did not have more advanced stage at presentation compared to white women (3.8% vs. 4.7%). **Conclusions:** Compared to white women, black women are more likely to be diagnosed with serous, clear cell, carcinosarcoma, and leiomyosarcomas at a more advanced stage upon presentation, but they are less likely to have endometrioid tumors. More research is needed to understand why this disparity exists. Research Sponsor: None.

6090 **Poster Session (Board #261), Fri, 8:00 AM-11:00 AM**

Evaluation of treatment patterns and prognosis in correlation with age in patients with vulvar cancer: A subset analysis of the AGO-CaRE-1 study.

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Background: Despite an increasing incidence with simultaneous decreasing age of onset, the impact of age on prognosis and treatment patterns in primary squamous cell vulvar cancer (VSCC) has not extensively been studied yet. **Methods:** This is a subgroup analysis of the AGO-CaRE-1 study. Patients (pts) with VSCC (FIGO stage ≥1B), treated at 29 cancer centers in Germany from 1998-2008, were included in a centralized database (n = 1618). In this subgroup analysis pts were analyzed according to age (< 50yrs (n = 220), 50–69yrs (n = 506), ≥70yrs (n = 521)) with regard to treatment patterns and prognosis. Only pts with documented age, surgical groin staging and known nodal status were included (n = 1247). Median follow-up was 27.5 months. **Results:** At first diagnosis, women ≥70yrs presented with more advanced tumor stages (< 0.001), larger tumor diameter (< 0.001), poorer ECOG status (< 0.001), higher tumor grading (0.048), as well as a higher rate of nodal involvement (< 0.001). Older women ≥70yrs showed more commonly HPV negative tumors compared to the other age groups (54% vs. 36.5% in < 50yrs vs. 47.9% in 50-69yrs, p = 0.03). Disease recurrence occurred significantly more often in elderly women (48% vs. 21% in < 50yrs vs. 37.4% in 50-69yrs, p = 0.001). Particularly isolated vulvar recurrence was more frequent in the elderly in comparison to the younger groups (18.2% vs. 15.2% in 50-69yrs vs. 12.7% in < 50yrs, p = 0.001). Age was an independent prognostic factor for disease-free survival (DFS) (HR: 1.7, 95%CI: 1.24-2.46, p = 0.001) with 2-year DFS being 81.1% (< 50yrs), 65.8% (50–69yrs), and 59.3% (≥70yrs), respectively. Elderly women (age group ≥70) had a 221% higher risk for death or recurrence, compared to the youngest group (HR: 3.21, p < 0.001). In a multivariate analysis ECOG, tumor stage, grading, and receipt of (chemo) radiation were further independent prognostic factors for recurrence. **Conclusions:** Older women with VSCC present with advanced tumor stages at first diagnosis and have an increased risk of recurrence as well as a decreased 2-year PFS in comparison to younger pts groups. Potential reasons for delayed time of diagnosis could be self-awareness and/or more aggressive tumor biology due to HPV negative disease.
Research Sponsor: None.

6091 **Poster Session (Board #262), Fri, 8:00 AM-11:00 AM**

Combination immunotherapy with ipilimumab and nivolumab in patients with rare gynaecological malignancies.

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Background: Up to 50% of gynecological cancers are considered rare. The outcome of these patients (pts) is poor given a lack of scientific and clinical knowledge. Immunotherapy using single agent anti-PD-1/PD-L1 treatment (tx) has shown only modest activity in patients with common gynecological malignancies, such as high grade serous ovarian cancer (ca) and microsatellite stable endometrial ca. Combined CTLA-4/PD-1 blockade using ipilimumab (ipi) and nivolumab (nivo) has demonstrated superior efficacy compared to single agent anti-PD-1 therapy in pts with advanced melanoma and renal cell ca. To date, no trials have been undertaken with ipi/nivo in patients with rare gynecological malignancies. **Methods:** 41 pts with advanced rare gynecological malignancies were enrolled into the CA209-538 trial. Pts received nivo 3mg/kg and ipi 1mg/kg q 3 weekly for four doses, followed by nivo 3mg/kg q 2 weekly. Tx continued for up to 96 weeks, or until disease progression or the development of unacceptable toxicity. Response (RECIST 1.1) was assessed every 12 weeks. The primary endpoint was clinical benefit rate (CBR = CR +PR + SD). Exploratory endpoints include correlation of efficacy with biomarkers (incl PD-L1/TMB). **Results:** Pts with 10 rare tumor types were enrolled (Table). 39/41 pts have received prior therapy (1-7 lines). Objective responses were observed in 11 pts (27%) including pts with vaginal SCC, ovarian clear cell and low grade serous ca, ovarian and uterine carcinosarcoma, uterine clear cell, uterine serous ca and leiomyosarcoma. A further 9 pts had SD as their best radiological response resulting in a CBR of 49%. The median duration of response had not been reached (range 3.5 – 25+ months) with seven responses being ongoing. 63% of pts experienced an immune related adverse event (irAEs) with 4 pts developing Grade 3/4 irAEs. **Conclusions:** Ipi/Nivo tx demonstrates efficacy in a range of different rare gynecological cancers with a significant number of durable responses being observed. Tumor agnostic biomarkers are required to assist with better patient selection. Clinical trial information: NCT02923934. Research Sponsor: Australian Federal Department of Health.

Ovarian carcinosarcoma	5
Low grade serous ovarian ca	4
Ovarian clear cell ca	5
Ovarian granulosa cell tumour	2
Ovarian Sertoli-Leydig cell tumour	2
Uterine serous ca	8
Uterine clear cell	2
Uterine carcinosarcoma	4
Uterine leiomyosarcoma	4
Vulva/Vaginal SCC	5

6092 **Poster Session (Board #263), Fri, 8:00 AM-11:00 AM**

Efficacy and safety of laterally extended endopelvic resection for the pelvic side wall gynecologic tumors: A four-year prospective cohort study with historical comparison.

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Background: Although laterally extended endopelvic resection (LEER) has been introduced to control the pelvic sidewall tumors, there is a lack of evidence about its efficacy and safety despite high skillful procedure, compared with the other treatments. Thus, we performed a prospective cohort study with historical comparison for four years. **Methods:** One gynecologic oncologist performed LEER consecutively for patients with the pelvic sidewall tumors between March 2014 and July 2018. We compared clinicopathologic characteristics and survival between patients who received primary LEER and with those treated with other treatments. **Results:** We enrolled 37 patients treated with LEER. Among them, 22 (59.5%) and 15 (40.5%) had recurrent and primary disease. Among perioperative outcomes, there was more estimated blood loss, and hospitalization was longer in recurrent disease and previous surgery ($p < 0.05$). In recurrent disease, previous progression-free survival < 8 months was related to poor recurrence-free survival after LEER (median, 5.4 vs. 10.2 months; $p < 0.05$). When LEER was applied for the first recurrence of cervical cancer, recurrence-free survival and overall survival after treatment seemed to be longer in LEER ($n = 9$) than in palliative chemotherapy ($n = 27$) without statistical significance (median, 12.2 vs. 4.7 months and 23.2 vs. 12.4 months; $p = 0.13$ and $p = 0.63$). In 15 patients with primary locally advanced cervical cancer, LEER after partial response to neoadjuvant chemotherapy showed longer progression-free survival than LEER after stable or progressive disease to neoadjuvant chemotherapy and primary radiotherapy ($p = 0.012$). After LEER, grade 3 and 4 complications developed in 15 (23.1%) and 2 (3.1%) patients. **Conclusions:** Compared with palliative chemotherapy, LEER followed by palliative chemotherapy may improve progression-free survival in patients with recurrent cervical cancer located in the pelvic sidewall. If possible, it is more effective to apply LEER without preceding palliative chemotherapy for recurrent cervical cancer located in the pelvic sidewall. Research Sponsor: None.

6093 **Poster Session (Board #264), Fri, 8:00 AM-11:00 AM**

Genomic and transcriptomic profiles of gynecologic neuroendocrine carcinoma are distinct from pulmonary neuroendocrine small cell carcinoma.

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Background: High-grade neuroendocrine carcinoma (NEC) of the cervix and other gynecologic origins are rare and aggressive cancers that unfortunately affect young women with high mortality. Treatment recommendations are often extrapolated from their counterpart, small cell carcinoma of the lung (SCLC). In the present study, we have performed comprehensive genomic and transcriptomic analyses in a cohort of patients with NEC of the cervix and other gynecologic origins and compared them to SCLC. **Methods:** We have identified 27 patients diagnosed with NEC of gynecologic origin from 1998-2019. Of them, we were able to obtain archival tissue from 14 patients (17 samples), including seven cervical NEC, three ovarian NEC, and two endometrial NEC. Two ovarian and one cervical patient have recurrent tumors. Whole exome sequencing (WES) and RNA-seq were successfully performed in 14 and 13 samples, respectively. BWA-MEM was used for mapping (hg38), and GATK Haplotype Caller was used for WES analysis. Ensemble-VEP was used for variant annotation, and SIFT and PolyPhen-2 were used for pathogenic prediction of missense mutations. Stranded pair-end RNA-seq data were analyzed using STAR and DESeq2. SCLC data from cBioPortal and EBI (accession number EGAS00001000334) were used to compare mutation and transcriptomic profiles. **Results:** We found that TP53 is not mutated in our cohort, and RB1 is mutated only in 1 (7%) tumor. TP53 and RB1 are the most frequently mutated genes in small cell lung carcinoma. However, LRP1B, the third most mutated gene in SCLC was also mutated in 4 (29%) tumors. We observed that WNT, RTK-RAS, NOTCH, and MYC are among the top mutated pathways in our cohort. Among the top 20 mutated genes, only four genes, MUC4, KMT2C, MAP3K1, and HLA-A, were common in cervical, ovarian, and endometrial tumors suggesting a high diversity within the NEC of gynecologic origin. Our RNA-seq analysis revealed a distinct transcriptional signature when compared to SCLC, especially the expression pattern of SCLC molecular subtypes defining ASCL1, NEUROD1, POU3F2, and YAP1 genes. Surprisingly, we observed a high expression of the YAP1 gene in all of the 13 tumors. However, the YAP1+ subtype represents a minority in SCLC and known to predict chemotherapy resistance and lower survival. **Conclusions:** Our results suggest a unique mutational profile and transcriptional signature that are distinct compared to SCLC tumors. Therefore, there is an urgent need to re-evaluate the therapeutic options and targets for NEC of gynecologic origin.
Research Sponsor: None.

TPS6094 **Poster Session (Board #265), Fri, 8:00 AM-11:00 AM**

A randomized phase III trial of adjuvant chemotherapy versus concurrent chemoradiotherapy (CCRT) for postoperative cervical cancer: Japanese Gynecologic Oncology Group study (JGOG1082).

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Background: Cervical cancer is one of the common gynecologic cancer and the incidence of invasive cervical cancer has increased over the past few decades, particularly in younger women. The standard treatment for stage IB to IIB cervical cancer is a radical hysterectomy. In Japan, more than 80% of institutions, radical hysterectomy is chosen as the primary treatment for patients with stage IB1 and IIA1 cervical cancer. Patients with high-risk factors would be recommend adjuvant concurrent chemoradiotherapy (CCRT). However, adjuvant CCRT might not reduce distant metastasis and might cause of severe gastrointestinal and urinal toxicity. To avoid those adverse events of adjuvant CCRT, many Japanese gynecologic oncologists perform chemotherapy as adjuvant therapy. In the first multi-institutional phase II trial conducted in stage IB-IIA cervical cancer with pelvic lymph node metastasis (JGOG1067), we found a 5-years disease free-survival rate of 86.5%, suggesting the adjuvant chemotherapy had promising efficacy and would be feasible for a long time. No prospective study reported that adjuvant chemotherapy would improve overall survival in patients with the high-risk cervical cancer. **Methods:** High risk stage IB-IIB cervical cancer patients who underwent radical hysterectomy are eligible for the study. Patients with high risk are defined as those with pelvic lymph-node metastasis and/or parametrial invasion. Patents with SCC, adenocarcinoma, adenosquamous cell carcinoma are eligible for the study. After providing informed consent, patients are randomized on a 1:1 basis to receive CCRT or chemotherapy. Randomization is stratified by the faculty, FIGO stage, and pathological subtype (SCC or non-SCC). Treatment have to be started within 6 weeks after surgery. CCRT group is given whole pelvis irradiation 50.4Gy and cisplatin (40mg/m^2/week). Chemotherapy group is given paclitaxel (175mg/m^2) plus cisplatin (50mg/m^2) or paclitaxel (175mg/m^2) plus carboplatin(AUC of 6). The primary endpoint is overall survival (OS). Secondary endpoints are disease free survival (DFS), adverse events and QOL. This study began in November 2019 and a total of 290 patients will be accrued within 5 years. The study is coordinated by of the JGOG cervical cancer committee. Clinical trial information: 041190042. Research Sponsor: None.

TPS6095 **Poster Session (Board #266), Fri, 8:00 AM-11:00 AM**

Phase Ib/II trial of tisotumab vedotin (TV) ± bevacizumab (BEV), pembrolizumab (PEM), or carboplatin (CBP) in recurrent or metastatic cervical cancer (innovaTV 205/ENGOT-cx8/GOG-3024).

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Background: Patients (pts) with recurrent/metastatic cervical cancer (r/mCC) receive paclitaxel/platinum or paclitaxel/topotecan ± BEV as first-line standard-of-care therapy. Tissue factor (TF) expression has been associated with poor prognosis in solid tumors, and TF is highly expressed in r/mCC. TV is an investigational antibody-drug conjugate composed of a fully human, TF-directed monoclonal antibody covalently attached to the microtubule-disrupting agent monomethyl auristatin E (MMAE) via a protease-cleavable linker. Upon internalization, MMAE is released resulting in cell cycle arrest and apoptotic cell death. In pts with previously treated r/mCC, TV monotherapy (IV 2.0 mg/kg Q3W) demonstrated a manageable safety profile and encouraging antitumor activity (investigator-assessed confirmed ORR, 24%; median DOR, 4.2 mo) [Hong DS et al. *Clin Cancer Res*. 2019. doi: 10.1158/1078-0432.CCR-19-2962]. The preliminary safety and efficacy data for TV monotherapy suggest a positive benefit/risk profile and warrant further investigation of TV in combination with therapies commonly administered to pts with r/mCC. The global, open-label, phase Ib/II trial innovaTV 205/ENGOT-cx8/GOG-3024 (NCT03786081) evaluates the safety and antitumor activity of TV monotherapy and TV in combination with BEV, PEM, or CBP in pts with untreated or previously treated r/mCC. This abstract presents the new TV monotherapy weekly dosing schedule. Results from this study will inform the further clinical development of TV in the treatment of r/mCC. **Methods:** Approximately 170 adult pts with recurrent or stage IVB squamous, adenosquamous, or adenocarcinoma of the cervix; measurable disease; and ECOG PS 0-1 will be enrolled. The phase I part of the study will consist of 3 dose-escalation arms for identification of the recommended phase II dose (RP2D) of TV administered Q3W with BEV, PEM, or CBP. In this part, previously treated pts will receive escalating doses of TV (IV Q3W) in combination with escalating doses of BEV (IV Q3W), a fixed dose of PEM (IV Q3W), or a fixed dose of CBP (IV Q3W). The phase II part will include 4 expansion arms. In this phase, pts who have not received prior systemic therapy for r/mCC will receive 1) TV RP2D + PEM or 2) TV RP2D + CBP; pts who received 1-2 prior treatments for r/mCC will receive 3) TV RP2D + PEM or 4) TV monotherapy with weekly dosing (IV 3Q4W). The primary endpoint of phase II is ORR by RECIST v1.1. Secondary endpoints include DOR, time to response, PFS, OS, and safety. Clinical trial information: NCT03786081. Research Sponsor: Genmab A/S.

TPS6096 **Poster Session (Board #267), Fri, 8:00 AM-11:00 AM**

ENGOT-cx11/KEYNOTE-A18: A phase III, randomized, double-blind study of pembrolizumab with chemoradiotherapy in patients with high-risk locally advanced cervical cancer.

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Background: High-risk locally advanced cervical cancer has a poor prognosis, and more than half of patients recur in 2 y. External beam radiotherapy (EBRT) with concurrent chemotherapy followed by brachytherapy is the standard of care for locally advanced cervical cancer. The immunostimulatory activity of the PD-1 inhibitor pembrolizumab (pembro) may be enhanced by concurrent chemoradiotherapy (CRT). After the KEYNOTE-158 study, in which pembro showed durable antitumor activity, pembro monotherapy was approved for patients with PD-L1–positive recurrent or metastatic cervical cancer who progressed during or after chemotherapy. ENGOT-cx11/KEYNOTE-A18 (NCT04221945) is a phase III, randomized, placebo-controlled study evaluating pembro with concurrent CRT for the treatment of locally advanced cervical cancer. **Methods:** Approximately 980 patients with high-risk (FIGO 2014 stage IB2-IIB with node-positive disease or stage III-IVA), locally advanced, histologically confirmed cervical cancer who have not received systemic therapy, immunotherapy, definitive surgery, or radiation will be randomized 1:1 to receive either 5 cycles of pembro 200 mg every 3 wk (Q3W) + CRT followed by 15 cycles of pembro 400 mg Q6W or 5 cycles of placebo Q3W + CRT followed by 15 cycles of placebo Q6W. The CRT regimen includes 5 cycles (with optional 6th dose) of cisplatin 40 mg/m^2 Q1W + EBRT followed by brachytherapy. Randomization is stratified by planned EBRT type (intensity-modulated radiotherapy [IMRT] or volumetric-modulated arc therapy [VMAT] vs non-IMRT or non-VMAT), cancer stage at screening (stage IB2-IIB vs III-IVA), and planned total radiotherapy dose. Treatment will continue until the patient has received 20 cycles of pembro (5 cycles 200 mg Q3W, 15 cycles 400 mg Q6W) vs placebo (~2 y) or until disease progression, unacceptable toxicity, or withdrawal. Primary endpoints are PFS per RECIST v1.1 by blinded independent central review and OS. Secondary endpoints are PFS at 2 y, OS at 3 y, complete response at 12 wk, ORR, PFS and OS in PD-L1–positive patients, EORTC QLQ-C30 and QLQ-CX24, and safety. Enrollment is ongoing. Clinical trial information: NCT04221945. Research Sponsor: Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc., Kenilworth, NJ, USA.

TPS6097 **Poster Session (Board #268), Fri, 8:00 AM-11:00 AM**

Clinical trial in progress: Pivotal study of VB-111 combined with paclitaxel versus paclitaxel for treatment of platinum-resistant ovarian cancer (OVAL, VB-111-701/GOG-3018).

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Background: Ofranergene obadenovec (VB-111) is a targeted anti-cancer gene therapy with a dual mechanism: a broad antiangiogenic effect and induction of a tumor directed viral immune response. In a phase II trial in platinum resistant ovarian cancer VB-111 in combination with weekly paclitaxel showed a CA-125 response rate (RR) of 58% and median overall survival (OS) of 498 days compared to 172.5 days in the sub-therapeutic dose ($p = 0.028$). The combination treatment was well tolerated. Favorable outcomes were associated with induction of an immunotherapeutic effect of tumor infiltration with CD-8 T cells. Based on these observations, a phase III randomized controlled trial, VB-111-701/GOG-3018 (OVAL) was initiated in collaboration with the GOG Foundation, Inc. **Methods:** The OVAL study, NCT03398655, is an international, randomized, double-blind, placebo-controlled, phase III study. Patients with recurrent platinum-resistant epithelial ovarian cancer, who have measurable disease (RECIST 1.1) and were previously treated with up to 5 lines are randomized 1:1 to receive VB-111 ($1x10^{13}$ VPs) with weekly paclitaxel ($80mg/m^2$), or weekly paclitaxel with placebo. Randomization is stratified by number of prior treatment lines, prior antiangiogenic therapy and platinum refractory disease status. Treatment beyond asymptomatic RECIST progression may continue until progression is confirmed by follow up imaging. The primary endpoints are OS, safety and tolerability. Secondary endpoints include progression free survival, and objective RR by CA-125 (per GCIG criteria) and RECIST 1.1. The sample size calculation of 400 patients (event driven) provides 92% power to detect a difference in survival at the two-sided 5% significance level using the logrank test. A pre-planned interim analysis will take place in Q1 2020 to assess whether the CA-125 RR per GCIG criteria in the treatment arm is sufficiently larger than in the control arm and is comparable to the positive results of the phase II study. Study enrolment is ongoing and over 80 patients were enrolled in the US and Israel. Enrollment expansion to Europe is planned in 2020. Clinical trial information: NCT03398655. Research Sponsor: VBL Therapeutics.

TPS6098 **Poster Session (Board #269), Fri, 8:00 AM-11:00 AM**

Basket study of the oral progesterone antagonist onapristone ER in women with progesterone receptor positive (PR+) recurrent granulosa cell tumor (GCT), low-grade serous ovarian cancer (LGSOC), or endometrioid endometrial cancer (EEC).

Rachel N. Grisham, Karen Li, Alexia Iasonos, Jeffrey Girshman, Karen Anne Cadoo, Chrisann Kyi, Vicky Makker, Seth M. Cohen, Roisin Eilish O'Cearbhaill, Paul Sabbatini, Alison M. Schram, Tiffany A. Troso-Sandoval, Viola N. Chitiyo, Maureen Kennedy, Elena N. Ngangom, Dasom N. Jang, William P. Tew, Sarah Chiang, Carol Aghajanian; Memorial Sloan Kettering Cancer Center and Weill Cornell Medical College, New York, NY; Memorial Sloan Kettering Cancer Center, New York, NY; Memorial Sloan-Kettering Cancer Center, New York, NY; Memorial Sloan Kettering, New York, NY

Background: Onapristone extended release (ER) is a type I full progesterone antagonist that inhibits progesterone mediated PR activation and stabilizes PR association with corepressors. Onapristone has shown activity across multiple preclinical models of hormonally driven cancer. A phase I dose escalation study of onapristone ER in PR+ breast, endometrial and ovarian cancer patients found all doses tested to be well tolerated, with 50mg PO BID determined to be the recommended phase 2 dose (RP2D). GCT (98% of cases PR+), LGSOC (58% of cases PR+) and EEC (67% of cases PR+) are hormonally driven cancers which generally have poor responses to chemotherapy and limited treatment options in the recurrent setting. **Methods:** This is an open-label, investigator-initiated basket study of onapristone ER in patients with PR+ recurrent GCT, LGSOC, or EEC currently enrolling patients at Memorial Sloan Kettering Cancer Center in NY, USA (NCT03909152). The primary objective is to evaluate the efficacy, in terms of response rate by RECIST 1.1 criteria, within 36 weeks of treatment. Eligible patients must have received at least 1 prior line of chemotherapy, have measurable disease by RECIST 1.1 criteria, and have tumor tissue collected within 3 years prior to enrollment with PR expression $\geq$ 1% by IHC. Patients are allowed to have unlimited additional prior lines of chemotherapy, biologic therapy, immunotherapy or hormonal therapy. Enrolled patients are treated with onapristone ER 50mg PO BID until time of progression or intolerable toxicity. The 3 disease cohorts are currently enrolling to Stage I in parallel with expansion from stage I to stage II planned when the prespecified response criteria are met for each cohort as described in the table below. Clinical trial information: NCT03909152. Research Sponsor: Context.

Histology	Stage I	Stage II (expansion)	Response rate to be deemed worthy of further study
PR+ Granulosa Cell Tumor	Enroll 14 patients, if $\geq$ 1 response(s) expand to stage II	Expand to a total of 23 patients	$\geq$ 3/23
PR+ Low Grade Serous Ovarian Cancer	Enroll 16 patients, if $\geq$ 2 responses expand to stage II	Expand to a total of 25 patients	$\geq$ 5/25
PR+ Endometrioid Endometrial Cancer	Enroll 19 patients, if $\geq$ 4 responses expand to Stage II	Expand to a total of 36 patients	$\geq$ 11/36

TPS6099 **Poster Session (Board #270), Fri, 8:00 AM-11:00 AM**

A phase Ib/II, multicenter, open-label study of DSP-7888 dosing emulsion in combination with immune checkpoint inhibitors (CPI) nivolumab or pembrolizumab in adult patients (pts) with advanced solid tumors, including platinum-resistant ovarian cancer (PROC).

Makoto Origuchi, Chris Korth, Zhonggai Li, Edgar E. Braendle; Boston Biomedical, Inc., Cambridge, MA; Boston Biomedical Inc, Lincon, MA

Background: DSP-7888 is a therapeutic cancer vaccine composed of two synthetic peptides derived from Wilms' tumor 1 (WT1) to promote both cytotoxic and helper T-lymphocyte-mediated immune responses against *WT1*-expressing tumors. *WT1* is overexpressed in various solid tumors, including ovarian cancer. Combining cancer vaccines like DSP-7888 with a CPI may reduce resistance to immunomodulators and improve clinical benefit. A phase Ib/II study is being conducted to evaluate DSP-7888 in combination with a CPI in pts with advanced solid tumors, including PROC (NCT03311334). **Methods:** This phase Ib/II, open-label, multicenter, two-part dose-search/dose-expansion study investigates DSP-7888 + nivolumab or pembrolizumab in pts with advanced solid tumors (phase Ib), including PROC (phase II). The phase Ib primary objectives are safety, tolerability, and identification of the recommended phase II dose (RP2D). The phase II primary objective is evaluation of objective response rate (ORR); secondary objectives are clinical activity, safety, and tolerability. Pts aged ≥18 years with unresectable, metastatic cancer approved for treatment with nivolumab (phase Ib, Arm 1, n=6–12, 7 enrolled) or pembrolizumab (phase Ib, Arm 2, n=6–12, 6 enrolled), or with PROC (phase II) are eligible. Phase II will enroll ~40 pts into two groups based on programmed death-ligand 1 status (combined positive score of ≥10 [Group 1] or <10 [Group 2]). Clinical activity will be assessed continuously using Bayesian analysis and actual enrollment may increase by ~20 pts/group based on this analysis. Pts in phase II will receive DSP-7888 intradermally (RP2D from phase Ib) once a week (wk) for 6 wks in the induction phase then every 3 wks in the maintenance phase. Beginning Day 1, pembrolizumab will be administered intravenously every 3 wks. In phase II, objective disease will be assessed every 6 wks for 24 wks, then every 12 wks until progression. Endpoints include ORR (per RECIST v1.1) (primary), duration of response, disease control rate (DCR), progression-free survival (PFS), 6-month PFS rate (per RECIST v1.1), and overall survival, immune (i)ORR, iDCR, and iPFS (per iRECIST) (secondary). Exploratory endpoints include blood and tumor tissue biomarkers. Safety and tolerability, assessed by adverse events, will be evaluated throughout the duration of the study and follow-up. This study is currently recruiting patients. Clinical trial information: NCT03311334. Research Sponsor: Boston Biomedical, Inc.

TPS6100 **Poster Session (Board #271), Fri, 8:00 AM-11:00 AM**

Primary cytoreductive surgery with or without Hyperthermic Intraperitoneal Chemotherapy (HIPEC) for FIGO stage III epithelial ovarian cancer: The OVHIPEC-2 trial in progress.

Ruby M. van Stein, Simone N. Koole, Karolina Sikorska, Desmond P. Barton, Lewis Perrin, Donal Brennan, Oliver Zivanovic, Berit J. Mosgaard, Anna Fagotti, Pierre-Emmanuel Colombo, Valesca P. Retel, Gabe S. Sonke, Willemien J. Van Driel, The International OVHIPEC-2 Steering Committee and The Dutch OVHIPEC group; The Netherlands Cancer Institute, Amsterdam, Netherlands; Department of Statistics, Netherlands Cancer Institute, Antoni van Leeuwenhoek Hospital, Amsterdam, Netherlands; Royal Marsden Hospital, London, United Kingdom; Queensland Centre for Gynecological Cancer, Brisbane, Australia; Mater Misericordiae University, Dublin, Ireland; Memorial Sloan Kettering Cancer Center, New York, NY; Copenhagen University Hospital, Copenhagen, Denmark; Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome, Italy; Institut regional du Cancer de Montpellier, Montpellier, France; DGOG and Department of Medical Oncology, The Netherlands Cancer Institute, Amsterdam, Netherlands; Department of Gynaecologic Oncology, The Netherlands Cancer Institute, Amsterdam, Netherlands

Background: The addition of Hyperthermic Intraperitoneal Chemotherapy (HIPEC) to interval cytoreductive surgery improves recurrence-free and overall survival in patients with FIGO stage III ovarian cancer who are ineligible for primary cytoreductive surgery due to extensive intraperitoneal disease. The effect of HIPEC remains undetermined in patients who are eligible for primary cytoreductive surgery. We hypothesize that the addition of HIPEC to a complete or near-complete (residual disease $\leq$2.5 mm) primary cytoreductive surgery improves overall survival in patients with FIGO stage III ovarian cancer. **Methods:** This international, randomized, open-label, phase III trial enrolls patients with newly diagnosed, histological proven FIGO stage III epithelial ovarian, fallopian tube, or primary peritoneal cancer. Patients with resectable umbilical, spleen or local bowel lesions may be included. Following complete or near-complete primary cytoreduction, patients are intra-operatively randomized (1:1) to receive HIPEC or no HIPEC. Patients in both study arms will receive six courses of adjuvant carboplatin-paclitaxel and maintenance PARP-inhibitor or bevacizumab according to current guidelines. The primary endpoint is overall survival. To detect a Hazard Ratio of 0.67 in favor of HIPEC, 200 overall survival events are required. Assuming that accrual will be completed in 60 months, and 12 months additional follow-up, 538 patients need to be randomized. All randomized patients will be included in the analysis for overall survival according to the intention to treat principle. Pre-specified subgroup analyses will be performed based on stratification factors (peritoneal cancer index at start of surgery, completeness of surgery), histologic subtype (high-grade serous versus other), and BRCA mutation (BRCA1/2 mutation versus wildtype). Secondary endpoints are recurrence-free survival, time to first subsequent anticancer treatment, and treatment related complications and toxicity. Exploratory endpoints are time to second subsequent anticancer treatment, health-related quality of life, and cost-effectiveness. The Institutional Review Board of the Netherlands Cancer Institute approved the trial, which is actively enrolling patients since January 2020. Clinical trial information: NCT03772028. Research Sponsor: Dutch Cancer Society (DCS), Other Foundation, Other Government Agency, French PHRC (programme hospitalier de recherche Clinique) program for participation of French centers.

TPS6101 **Poster Session (Board #272), Fri, 8:00 AM-11:00 AM**

ENGOT-OV44/FIRST study: a randomized, double-blind, adaptive, phase III study of standard of care (SOC) platinum-based therapy ± dostarlimab followed by niraparib ± dostarlimab maintenance as first-line (1L) treatment of stage 3 or 4 ovarian cancer (OC).

Anne-Claire Hardy-Bessard, Kathleen N. Moore, Mansoor Raza Mirza, Bernard Asselain, Andres Redondo, Jacobus Pfisterer, Sandro Pignata, Diane M. Provencher, David Cibula, Anna K.L. Reyners, Lubomir Bodnar, Rosalind Glasspool, Christos Papadimitriou, Rami Eitan, Sileny N. Han, Linda R. Duska, BJ Rimel, Gupta Divya, Jian Chen, Eric Pujade-Lauraine; Medical Oncology Department, CARIO-HPCA and Cooperative Gynecological Cancer Research Group (GINECO), Plerin, France; Stephenson Cancer Center, University of Oklahoma Health Sciences Center and Sarah Cannon Research Institute (Nashville, TN), Oklahoma City, OK; Nordic Society of Gynecologic Oncology (NSGO) and Rigshospitalet University Hospital, Copenhagen, Denmark; Department of Biostatistics, Institut Curie and GINECO, Paris, France; Hospital Universitario La Paz-IdiPAZ and Spanish Ovarian Cancer Research Group (GEICO), Madrid, Spain; AGO Study Group Germany, Gynecologic Oncology Center, Kiel, Germany; MITO - Italy, Department of Urology and Gynecology, Istituto Nazionale Tumori IRCSS Fondazione G. Pascale, Naples, Italy; University de Montreal, Montreal, QC, Canada; CEECOG, Gynecologic Oncology Center-Department of Obstetrics and Gynecology-General University Hospital, Prague, Czech Republic; DGOG-Hollande, Groningen, Netherlands; PGOG, Military Institute of Medicine, Warsaw, Poland; SGCTG/NCRI-UK, Beatson West of Scotland Cancer Centre, Glasgow, United Kingdom; HeCOG-Greece, Aretaieio University Hospital, Athens, Greece; ISGO-Israel, Rabin Medical Center, Tel Aviv University, Petah Tikva, Israel; BGOG-Belgium, Leuven, Belgium; University of Virginia, Charlottesville, VA; Cedar Sinai Cancer Center, Los Angeles, CA; GlaxoSmithKline, Waltham, MA; ARCAGY-GINECO, Paris, France

Background: Despite surgery and CT (paclitaxel + carboplatin ± bevacizumab [bev]), 5-year survival rates remain low for patients (pts) with FIGO stage 3 or 4 OC. Niraparib is a poly (ADP-ribose) polymerase (PARP) inhibitor that has recently demonstrated efficacy in 1L therapy. Dostarlimab (TSR-042) is an anti-programmed death (PD)-1 humanized monoclonal antibody that has shown clinical activity as monotherapy in early phase trials. The currently enrolling ENGOT-OV44/FIRST study will compare efficacy and safety of CT + dostarlimab + niraparib ± bev (Arm 3) vs CT + niraparib ± bev (Arm 2). **Methods:** Eligible pts are ≥18 years of age, with FIGO stage 3 or 4 non-mucinous epithelial OC, ECOG performance status < 2, and tumor tissue available for PD-1 ligand (PD-L1) testing. After cycle 1 of CT, pts are stratified by concurrent bev use, *BRCA* mutation/homologous recombination repair status, and disease burden, then randomized 1:2 into trial Arms 2 and 3 (Table). Dostarlimab is administered at 500 mg IV Q3W during the CT period, then 1000 mg IV Q6W during the maintenance period. Niraparib dosing is 200 mg PO QD for pts with baseline bodyweight (BW) < 77 kg and/or platelet count (PC) < 150,000/μL, or 300 mg QD for pts with baseline BW ≥77 kg and PC ≥150,000/μL. The dual primary endpoints are PFS, based on investigator assessment per RECIST v1.1, in both PD-L1+ and all patients. Initially the study enrolled pts to Arm 1. This arm was discontinued following positive results from the PRIMA/ENGOT-OV26/GOG-3012 and PAOLA-1/ENGOT-OV25 studies. This allows investigators to offer the current standard of care to all patients. Clinical trial information: NCT03602859, EUDRACT 2018-000413-20. Research Sponsor: GlaxoSmithKline.

	Randomization Scheme 0:1:2		
Treatment period	**Arm 1 (discontinued)**	**Arm 2**	**Arm 3**
CT*	CT + IV placebo	CT + IV placebo	CT + IV dostarlimab
Maintenance up to 3 years*	Oral placebo + IV placebo	Oral niraparib + IV placebo	Oral niraparib + IV dostarlimab

*Bev is optional in all arms.

TPS6102 **Poster Session (Board #273), Fri, 8:00 AM-11:00 AM**

NOGGO Ov-42/MAMOC: Rucaparib maintenance after bevacizumab maintenance following carboplatin-based first line-chemotherapy in ovarian cancer patients.

Elena Ioana Braicu, Pauline Wimberger, Rolf Richter, Maren Keller, Petra Krabisch, Mustafa Deryal, Ingo B. Runnebaum, Ralf Witteler, Nikola Bangemann, Frederik Marmé, Michael Eichbaum, Florian Heitz, Barbara Schmalfeldt, Eva Egger, Dorothea Fischer, Radoslav Chekerov, Jacek P. Grabowski, Jalid Sehouli; Department of Gynecology, Charité Medical University, Berlin, Germany; Department of Gynecology and Obstetrics, University Hospital Carl Gustav Carus, TU Dresden, Dresden, Germany; Department of Gynecological Oncology, Charite University Medicine, Berlin, Germany; NOGGO e.V., Berlin, Germany; Klinikum Chemnitz, Chemnitz, Germany; Caritasklinik St. Theresia Saarbrücken, Saarbrücken, Germany; Universitätsklinikum Jena, Jena, Germany; Department of Gynecology and Obstetrics, University Hospital, Westfaelische-Wilhelms-Universität, Muenster, Germany, Münster, Germany; Carl-Thiem-Klinikum, Cottbus, Germany; University Hospital Mannheim, Mannheim, Germany; Department for Gynecology and Gynecological Oncology, Helios Dr. Horst Schmidt Kliniken Wiesbaden, Wiesbaden, Germany; Kliniken Essen Mitte, Essen, Germany; University Medical Center Hamburg-Eppendorf, Hamburg, Germany; Department of Gynecology and Gynecologic Oncology University of Bonn, Bonn, Germany; Department of Gynaecology and Obstetrics, Potsdam, Germany; Charité–Universitätsmedizin Berlin, Department of Gynaecology, European Competence Center for Ovarian Cancer, Charité Campus Virchow Klinikum, Berlin, Germany; NOGGO and Department of Gynecology with Center for Oncological Surgery, Medical University of Berlin, Berlin, Germany; Charité Campus Virchow-Klinikum, Berlin, Germany

Background: Ovarian cancer (OC) is associated with the highest mortality rates among gynecological malignancies, with most patients being diagnosed in advanced stages. The most common histological subtype is high grade serous OC, which is characterized by deficiency in homologous recombination. Debulking surgery, followed by platinum based chemotherapy and bevacizumab (bev), followed by maintenance therapy with bev, is the standard therapy for advanced BRCA wild type (BRCAwt) OC patients in Germany. BRCA mutant patients will receive maintenance with olaparib, according to SOLO1 data. The anticancer effects of PARP inhibitors (PARPi) seem to be increased by the addition of antiangiogenic drugs. Preclinical data showed increased HRD in tumors pretreated with bev, and clinical trials showed a benefit of the combination of antiangiogenic drugs and PARPi vs. PARPi alone. NOGGO Ov-42/MAMOC trial (NCT04227522) is a phase III, randomized, placebo-controlled study evaluating rucaparib maintenance following bevacizumab maintenance for the treatment of advanced primary high grade BRCAwt OC. **Methods:** 190 patients with histologically confirmed advanced (FIGO stage IIIA- IV of the 2014 FIGO classification) high grade serous or high grade endometrioid (based on local histopathological findings) OC, fallopian tube cancer, primary peritoneal cancer or clear cell carcinoma of the ovary will be randomized 2:1 to receive either rucaparib 600mg BID or placebo as maintenance therapy following first line chemotherapy with 6 cycles of Carboplatin/Paclitaxel and at least 12 cycles of bev, given together with chemotherapy and as maintenance. Only BRCAwt patients will be included in the trial. Randomization is stratified by surgery planned timepoint (neoadjuvant vs. adjuvant), surgical outcome (no residual tumor mass vs. residual tumor mass), response to chemotherapy followed by bev (CR/NED vs. PR/SD) and study center. Treatment will continue for 24 months or until disease progression, unacceptable toxicity, or withdrawal. Primary endpoint is PFS in BRCAwt patients per RECIST v1.1. Secondary endpoints are PFS2, quality of life (EORTC QLQ-C30/OV28, FSI, SF-12, PROC-CTCAE, every day memory questionnaire), daily activity, time to next medical intervention, time to next subsequent therapy, safety assessments and OS. Clinical trial information: NCT04227522. Research Sponsor: CLOVIS.

TPS6103 **Poster Session (Board #274), Fri, 8:00 AM-11:00 AM**

MIRASOL (GOG 3045/ENGOT OV-55): A randomized, open-label, phase III study of mirvetuximab soravtansine versus investigator's choice of chemotherapy in advanced high-grade epithelial ovarian, primary peritoneal, or fallopian tube cancers with high folate-alpha (FRα) expression.

Kathleen N. Moore, Toon Van Gorp, Jiuzhou Wang, Brooke Esteves, Patrick A Zweidler-McKay; University of Oklahoma Medical Center, Oklahoma City, OK; BGOG & Department of Gynaecology and Obstetrics, University Hospitals Leuven, Leuven Cancer Institute, Leuven, Belgium; ImmunoGen, Inc., Waltham, MA; Kadmon Rsrch Inst, Wilmington, MA; ImmunoGen, Waltham, MA

Background: Elevated FRα expression is a characteristic of several solid tumors, including epithelial ovarian cancer (EOC), thereby providing an attractive candidate for targeted therapeutic approaches. Mirvetuximab soravtansine is an antibody-drug conjugate (ADC) comprising a FRα-binding antibody, cleavable linker, and the maytansinoid DM4, a potent tubulin-targeting agent that has shown consistent and meaningful single agent clinical activity, along with favorable tolerability, in patients with high FRα expressing tumors. **Methods:** MIRASOL is a randomized phase III study designed to evaluate the efficacy of mirvetuximab soravtansine compared with that of standard-of-care chemotherapy in adult patients with platinum-resistant EOC, primary peritoneal cancer, or fallopian tube cancer. Confirmation of high FRα positivity by immunohistochemistry (high expression; $\geq$ 75% of cells with PS2+ staining intensity) and $\leq$ 3 prior lines of therapy are required for inclusion. MIRASOL is designed to randomize 430 patients, 1:1 to Arm 1 (intravenous mirvetuximab soravtansine at a dose of 6 mg/kg, calculated using adjusted ideal body weight, on Day 1 of a 21-day cycle) or Arm 2 (investigators' choice chemotherapy: paclitaxel, pegylated liposomal doxorubicin, or topotecan). The primary efficacy endpoint is progression-free survival (PFS; by investigator) and secondary endpoints include objective response rate, quality of life, overall survival, and safety and tolerability. MIRASOL opened for enrollment in December 2019. Clinical trial information: NCT04209855. Research Sponsor: ImmunoGen.

TPS6104 **Poster Session (Board #275), Fri, 8:00 AM-11:00 AM**

DUETTE: A randomized phase II study to assess a second maintenance treatment with olaparib (ola) or ola+ceralasertib (cer), in patients (pts) with platinum-sensitive relapsed (PSR) epithelial ovarian cancer who have previously received PARP inhibitor maintenance treatment (NCT04239014).

Amit M. Oza, Andrew Pierce, Alan Lau, Nisha Kurian, Graeme Parr, Si-Houy Lao-Sirieix, Mei Lin W. Ah-See, Emma Dean, Bienvenu Loembé; Princess Margaret Cancer Centre, Toronto, ON, Canada; AstraZeneca, Cambridge, United Kingdom; Astra Zeneca, Cambridge, United Kingdom; Oncology IMED Biotech Unit, AstraZeneca, Melbourn, United Kingdom; Mount Vernon Hosp, Northwood, United Kingdom; University of Manchester and The Christie NHS Foundation Trust, Manchester, United Kingdom; AstraZeneca, Royston, United Kingdom

Background: Ovarian cancer is the leading cause of death from gynecological cancers in the USA, and the fifth most common cause of cancer death in women. Ola is a PARPi approved for first-line maintenance treatment of *BRCA*-mutated advanced ovarian cancer in women who achieve a complete or partial response to platinum-based chemotherapy. Ola is also efficacious in combination with bevacizumab in the same population, independent of BRCA mutation status. Cer is a potent, oral, selective inhibitor of ATR. ATR is a critical DDR kinase that is activated in response to replication stress and stalled replication forks. There is no second maintenance standard of care for patients with PSR ovarian cancer who have previously received a PARPi in the maintenance setting. Pre-clinical models have shown that several mechanisms of PARPi resistance may be overcome by ATR inhibition, such as BRCA reversion, replication fork protection and DDR rewiring. DUETTE will select pts with tumor response or stable disease after second or third-line platinum-based treatment, with the expectation to enrich for non-BRCA reversion PARPi resistance mechanisms. The study will address the role of a second maintenance treatment following prior 1L or 2L maintenance, an emerging population of unmet need, and includes translational studies that aim to further our knowledge of clinical PARPi resistance mechanisms and predictors of treatment response. **Methods:** DUETTE is a global, multi-center, phase II study. 192 pts with PSR epithelial ovarian cancer who have previously received PARPi maintenance treatment, will be retreated with platinum and those who have not progressed after $\geq$ 4 cycles will be randomized (1:1:1) to 3 treatment arms: Arm 1, open-label: cer 160 mg once daily (qd) days 1 to 7 plus ola 300 mg twice daily (bd); Arm 2, blinded: ola monotherapy 300 mg bd and Arm 3, blinded: ola-placebo. Treatment is administered in 28-day cycles. All pts will be stratified by BRCA status (mutation or wildtype) and response to most recent line of platinum-based chemotherapy (CR/PR or SD). The primary endpoint is to assess the efficacy of maintenance ola monotherapy and cer+ola combination therapy compared with placebo by PFS using blinded, independent central review. Secondary endpoints are overall survival, PFS2, ORR, DoR, safety and tolerability. Enrolment is planned to start in April 2020. Research Sponsor: Astra Zeneca.

TPS6105 **Poster Session (Board #276), Fri, 8:00 AM-11:00 AM**

SIENDO/ENGOT-EN5: A randomized phase III trial of maintenance with selinexor/placebo after combination chemotherapy in patients with advanced or recurrent endometrial cancer.

Ignace Vergote, Erika Paige Hamilton, Ignacio Romero, Eva M. Guerra, Joseph Buscema, Annouschka Laenen, Tamar Perri, Purificación Estévez-García, Cesar Gomez Raposo, Tally Levy, Giorgio Valabrega, Jeronimo Martinez Garcia, Giorgia Mangili, Vicky Makker, Dayana Michel, Hongwei Wang, Mansoor Raza Mirza; BGOG and University Hospitals Leuven, Leuven Cancer Institute, Leuven, Belgium; Sarah Cannon Research Institute and Tennessee Oncology, Nashville, TN; Instituto Valenciano de Oncología, Valencia, Spain; Hospital Universitario Ramon y Cajal, Madrid, Spain; GBMC Physicians Pavilion, Towson, MD; BGOG and Leuven Cancer Institute, Leuven, Belgium; Sheba Medical Center, Ramat Gan, Israel; Consorcio Hospital General Universitario de Valencia, Valencia, Spain; Hospital Infanta Sofia, Madrid, Spain; Wolfson Medical Center, Holon, Israel; Department of Oncology, University of Torino, Italy. Candiolo Cancer Institute, FPO - IRCCS - Str. Prov.le 142, km. 3,95, 10060 Candiolo (TO), Italy, Torino, Italy; Hospital Clinico Universitario Virgen de la Arrixaca, Murcia, Spain; Department of Obstetrics and Gynecology, IRCCS San Raffaele Hospital, Milan, Italy; Memorial Sloan Kettering Cancer Center, New York, NY; Karyopharm Therapeutics, Newton, MA; Karyopharm Therapeutics Inc., Newton, MA; The Finsen Centre 5073, Copenhagen, Denmark

Background: Endometrial cancer is one of the most common gynecologic malignancies with increasing incidence and mortality. Patients with advanced disease that has relapsed or received prior platinum-based therapy or radiotherapy have limited options and the prognosis remains poor. Selinexor is a novel, oral selective inhibitor of nuclear export (SINE) which forces nuclear retention and activation of tumor suppressor proteins. Selinexor in combination with low dose dexamethasone was recently approved for patients with multiple myeloma. In addition, single agent selinexor has demonstrated broad activity in other hematologic malignancies and solid tumors. In a phase II study, 50 mg/m^2 (~80 mg) selinexor administered twice weekly demonstrated a disease control rate of 35% with 2 confirmed partial responses among 23 patients with heavily pretreated endometrial cancer (Vergote I et al. Gynecol Oncol 2020). In the absence of approved maintenance therapies, we conducted this study to evaluate the efficacy of selinexor compared with placebo as maintenance therapy in patients with advanced or recurrent endometrial cancer. **Methods:** This is a multicenter, double-blind, placebo-controlled, randomized phase III study in patients in partial or complete remission after completing at least 12 weeks of taxane-platinum combination therapy for primary Stage IV disease and recurrent disease (i.e., relapse after primary therapy for early stage disease including surgery and/or adjuvant therapy). A total of 192 patients will be enrolled at 80 sites in Europe, North America, and Israel. Patients will be randomized in a 2:1 ratio to either maintenance therapy with 80 mg oral selinexor once weekly or placebo. Stratification factors include primary Stage IV versus first recurrent disease at the time of taxane-platinum therapy and disease status after chemotherapy (partial versus complete response). Treatment will continue until disease progression. The primary endpoint is progression free survival (PFS) per RECIST v1.1. Secondary endpoints include disease-specific survival, overall survival, time to first subsequent therapy, time to second subsequent therapy, PFS on subsequent therapy and safety and tolerability. The study is currently open and enrolling patients. Clinical trial information: NCT03555422. Research Sponsor: Karyopharm Therapeutics Inc.

TPS6106 **Poster Session (Board #277), Fri, 8:00 AM-11:00 AM**

ENGOT-en9/LEAP-001: A phase III study of first-line pembrolizumab plus lenvatinib versus chemotherapy in advanced or recurrent endometrial cancer.

Christian Marth, Christof Vulsteke, Maria Jesus Rubio Pérez, Vicky Makker, Elena Ioana Braicu, Iain A. McNeish, Radoslaw Madry, Ali Ayhan, Kosei Hasegawa, Xiaohua Wu, Lea Dutta, Cindy Xu, Stephen Michael Keefe, John J. Lee, Sandro Pignata; Department of Gynecology and Obstetrics, Medical University of Innsbruck, Innsbruck, Austria; University Hospitals Leuven, Leuven, Belgium; Hospital Universitario Reina Sofía, Córdoba, Spain; Memorial Sloan Kettering Cancer Center, New York, NY; NOGGO and Department of Gynecology with Center for Oncological Surgery, Medical University of Berlin, Berlin, Germany; Imperial College London, London, United Kingdom; Clinical Hospital of the Transfiguration of the Lord's Medical University Karol Marcinkowski, Poznań, Poland; Ankara Baskent University Hospital, Ankara, Turkey; Saitama Medical University International Medical Center, Hidaka, Japan; Department of Gynecologic Oncology, Fudan University Shanghai Cancer Center, Shanghai, China; Eisai Inc., Woodcliff Lake, NJ; Merck & Co., Inc, Kenilworth, NJ; Merck & Co., Inc., Kenilworth, NJ; Stanford Univ School of Medcn, San Carlos, CA; Department of Urology and Gynecology, Istituto Nazionale Tumori IRCCS Fondazione "G. Pascale", Naples, Italy

Background: The prognosis for endometrial cancer (EC) can be favorable when diagnosed in early stages, but prognosis and overall survival are poor in patients with advanced or recurrent EC. First-line standard of care for patients with advanced or recurrent EC is paclitaxel and carboplatin chemotherapy; however, there is a need for more effective and tolerable therapies. In the phase Ib/II trial KEYNOTE-146, which assessed the PD-1 inhibitor pembrolizumab (pembro) in combination with the multikinase inhibitor lenvatinib, an objective response rate (ORR) of 38% was observed (N=108) in patients with previously treated advanced EC. ENGOT-en9/LEAP-001 (NCT03884101) is a randomized, open-label, active-controlled, phase III study investigating pembro + lenvatinib vs chemotherapy in patients with newly diagnosed advanced or recurrent EC. **Methods:** Patients with newly diagnosed advanced (stage III-IV) or recurrent EC not previously treated with antiangiogenic agents; systemic chemotherapy (unless within a chemoradiation regimen); PD-1, PD-L1, or PD-L2 inhibitors; or other T-cell receptor–targeted therapies will be eligible. Patients will be randomized 1:1 to receive pembro 200 mg every 3 wk (Q3W) + lenvatinib 20 mg daily or paclitaxel 175 mg/m^2 Q3W + carboplatin AUC 6 Q3W. Randomization will be stratified on the basis of proficient vs deficient mismatch repair (pMMR vs dMMR) status. The pMMR population will be further stratified by prior chemoradiation (yes vs no), measurable disease (yes vs no), and ECOG performance status (0 vs. 1). Patients will continue on treatment for up to 35 cycles of pembro vs 7 cycles of chemotherapy or until initiation of a new anticancer treatment, unacceptable adverse events, or withdrawal of consent. Primary study endpoints are progression-free survival (per RECIST v1.1 by blinded independent central review) and overall survival. Secondary study endpoints are ORR, health-related quality of life, safety and tolerability, and lenvatinib pharmacokinetics. Exploratory endpoints will include disease control rate, clinical benefit rate, and duration of response. Enrollment is ongoing. Clinical trial information: NCT03884101. Research Sponsor: Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc., Kenilworth, NJ, USA and Eisai Inc., Woodcliff Lake, NJ, USA.

TPS6107 **Poster Session (Board #278), Fri, 8:00 AM-11:00 AM**

ENGOT-EN6/NSGO-RUBY: A phase III, randomized, double-blind, multicenter study of dostarlimab + carboplatin-paclitaxel versus placebo + carboplatin-paclitaxel in recurrent or primary advanced endometrial cancer (EC).

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Background: Carboplatin-paclitaxel is considered standard systemic anticancer therapy for recurrent or advanced EC for which surgery and/or radiation are not curative. Dostarlimab (TSR-042) is an anti-programmed cell death (PD)-1 humanized monoclonal antibody that has demonstrated antitumor activity and an acceptable safety profile in patients (pts) with recurrent or advanced EC in the GARNET trial. The RUBY trial was designed to evaluate the efficacy and safety of dostarlimab in combination with carboplatin-paclitaxel in recurrent or primary advanced EC compared with carboplatin-paclitaxel alone. **Methods:** This is a global, randomized, double-blind, multicenter, placebo-controlled study. Eligible pts must have first recurrent or primary stage III or stage IV EC with a low potential for cure by radiation therapy or surgery alone or in combination. Pts with carcinosarcoma are eligible for enrollment. 470 pts will be enrolled from approximately 160 sites in the ENGOT countries, United States, and Canada. Stratification factors are microsatellite instability (MSI) status (MSI-high [MSI-H] or microsatellite stable [MSS]), prior external pelvic radiotherapy (yes or no), and disease status (recurrent, primary stage III, or primary stage IV). Pts will be randomized 1:1 to receive combination dostarlimab 500 mg or placebo + carboplatin AUC 5 + paclitaxel 175 mg/m^2 every 3 weeks for 6 cycles followed by dostarlimab 1000 mg or placebo monotherapy every 6 weeks for up to 3 years in the absence of progressive disease, death, unacceptable toxicity, or patient/physician decision to withdraw from the study. The primary endpoint is progression-free survival (PFS) as assessed by the investigator in the all-comers population and the MSI-H population per RECIST version 1.1. Secondary efficacy endpoints are PFS assessed by blinded independent central review per RECIST version 1.1, overall survival, objective response rate, duration of response, disease control rate, safety and tolerability, and patient-reported outcomes. Clinical trial information: NCT03981796. Research Sponsor: GlaxoSmithKline.

TPS6108 **Poster Session (Board #279), Fri, 8:00 AM-11:00 AM**

DUO-E/GOG-3041/ENGOT-EN10: a randomized phase III trial of first-line carboplatin (carb) and paclitaxel (pac) in combination with durvalumab (durva), followed by maintenance durva with or without olaparib (ola), in patients (pts) with newly diagnosed (nd) advanced or recurrent endometrial cancer (EC).

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Background: There is a high unmet need for advances in EC treatment that provide progression-free survival (PFS) and overall survival (OS) benefits. EC tumors are sensitive to carb/pac (Pectasides *et al. Gynecol Oncol* 2008). Maintenance therapy with the poly(ADP-ribose) polymerase inhibitor (PARPi) ola (with or without bevacizumab) led to significant PFS benefits in advanced ovarian cancer pts with either nd (SOLO1, Moore *et al. NEJM* 2018; PAOLA-1, Ray-Coquard *et al. NEJM* 2019) or recurrent (SOLO2, Pujade-Lauraine *et al. Lancet Oncol* 2017; Study 19, Friedlander *et al. Br J Cancer* 2018) platinum-sensitive disease, regardless of BRCA mutation status (PAOLA-1; Study 19), and in BRCA-mutated metastatic pancreatic cancer pts (POLO, Golan *et al. NEJM* 2019). Molecular features of EC could predict sensitivity to PARPi (de Jonge *et al. Clin Cancer Res* 2019; Auguste *et al. Mod Pathol* 2018). PARPi has been shown to prime the immune microenvironment in a preclinical *BRCA1* mutant ovarian model (Higuchi *et al. Cancer Immunol Res* 2015). Clinical trials have demonstrated antitumor activity of the anti-programmed cell death ligand-1 (anti-PD-L1) blocker durva (Antill *et al. J Clin Oncol* 2019) and anti-programmed cell death-1 (anti-PD-1) antibody therapies (Makker *et al. ESMO* 2019; Oaknin *et al. SGO* 2019) in EC pts. The DUO-E trial (EUDRACT 2019-004112-60, D9311C00001, NCT04269200) will investigate whether the addition of durva to carb/pac, followed by durva (with or without ola) maintenance treatment, improves PFS in pts with nd advanced or recurrent EC. **Methods:** Eligible pts for this multicenter, double-blind, Phase III trial must have nd Stage III/IV or recurrent EC and be naïve to first-line chemotherapy. Pts will be randomized (1:1:1; n=~233 per arm) to: arm A) carb/pac + placebo (pbo) (q3w for six cycles) followed by pbo maintenance treatment; arm B) carb/pac + durva (1120 mg; q3w for six cycles) followed by maintenance treatment with durva (1500 mg q4w) + pbo (tablets bid); or arm C) carb/pac + durva (1120 mg; q3w for six cycles) followed by maintenance treatment with durva (1500 mg q4w) + ola (300 mg bid tablets). Pts received maintenance treatment until disease progression. Primary endpoint: investigator-assessed PFS (RECIST 1.1) of arm B vs. arm A. Key secondary endpoints: PFS of arm C vs. arm A; OS of arm B vs. arm A, and of arm C vs. arm A. Enrollment began in Q1 2020. Clinical trial information: 2019-004112-60. Research Sponsor: AstraZeneca.

TPS6109 **Poster Session (Board #280), Fri, 8:00 AM-11:00 AM**

Multicentre randomized phase II trial of olaparib as maintenance therapy in platinum-sensitive advanced endometrial carcinoma: The GINECO-UTOLA study.

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Background: Advanced endometrial cancer (EC) patients relapse despite treatment with combination chemotherapy and have a short progression-free survival (PFS). Data from the TGCA suggest opportunities to targeting DNA repair in women with EC. Particularly type 4 (High copy number or serous like, with frequent TP53 mutations) and type 2 (microsatellite instability hypermutated) EC can be associated with defects in double strand break DNA repair by homologous recombination (HR) and could potentially be targeted by olaparib. We propose a placebo-controlled, multicenter, two-arm, phase II trial comparing olaparib versus placebo in maintenance therapy after chemotherapy in patients with advanced/metastatic EC. **Methods:** The primary objective of this trial is to evaluate the efficacy of maintenance olaparib in comparison to placebo after platinum based chemotherapy, defined by PFS according to Recist. Key eligibility criteria include: advanced/metastatic histologically confirmed EC (excepted carcino-sarcoma, small cells& neuroendocrine); prior surgery, adjuvant chemotherapy, radiation and hormonal therapy are permitted; objective or stable response after first-line chemotherapy is mandatory. 147 patients are randomized (2:1) after chemotherapy to receive Olaparib 300mg twice daily or placebo in maintenance after at least 4 cycles of platinum based chemotherapy. Olaparib/placebo is continued until disease progression, unacceptable toxicity, or withdrawal. Stratification is on IHC P53 and MMR status. Primary hypothesis is a 66.7% relative increase in the median PFS rate in the olaparib arm (from 4.5 to 7.5 months), corresponding to a 0.60 Hazard Ratio. Secondary endpoints include PFS according to P53, MMR and NGS HRD status, PFS2, disease specific survival, time to subsequent therapy, overall survival, objective response, disease control rate, patient reported outcomes (assessed via EORTC QLQ-C30 and EORTC QLQ-EN24, EORTC-FA, EQ5D) and safety. Trial is recruiting in France (in February n= 40 randomization). **Conclusion:** this will be the first study that evaluate the efficacy of olaparib in maintenace after chemotherapy in advanced/metastastic EC, stratified on molecular profil. Clinical trial information: NCT03745950. Research Sponsor: Astrazeneca.