QS1. MANAGEMENT OF THE POSITIVE NIPPLE MARGIN IN NIPPLE-SPARING MASTECTOMY: A LESS AGGRESSIVE AND ONCOLOGICALLY SAFE APPROACH
ML Haslinger MD, M Sosin MD, AJ Bartholomew MS, AB Crocker MS, A Gulla MD, S Seevaratnam BS, TA Pittman MD, SC Willey MD, EA Tousimis MD
Presenter: Michelle Haslinger MD

Background: Reported rates of positive nipple margins following nipple-sparing mastectomy (NSM) vary widely (3-20%). The current standard of care is to remove the nipple areolar complex (NAC) for a positive nipple margin. The purpose of this study is to describe a less aggressive approach to retain the NAC while achieving a negative nipple margin.

Methods: A single institution retrospective chart review was performed for patients undergoing NSM from 1989 to 2017. Demographic, clinical, and pathologic data were reviewed to identify breasts with positive nipple margins, defined as invasive carcinoma or DCIS within 2mm of the NAC. Primary outcomes included rates of positive margins, shave biopsy of subareolar tissue, total NAC excision, as well as complications and final pathology of subsequent biopsies.

Results: A total of 819 NSMs were performed; 454 (55.4%) were prophylactic, 365 (44.6%) were therapeutic, and 338 (41.3%) were bilateral. A total of 39 breasts (4.7%) with positive nipple margins (2003-2017) established the cohort for analysis. The mean age was 48.6 +/- 10.6 years, BMI was 24.0 +/- 3.8 kg/m2, tumor size of invasive carcinoma was 1.7 +/- 1.5cm, size of DCIS was 3.0 +/- 2.4cm, distance of primary tumor to NAC was 3.9 +/- 1.9cm, and all were therapeutic NSMs. Management of positive margins included 16 (41.0%) shave biopsies of subareolar tissue, 16 (41.0%) total NAC excisions, 6 (15.4%) with no intervention, and 1 (2.6%) lost to follow-up. Of the shave biopsies, mean time from NSM was 3.4 +/- 1.9 months; 9 (56.3%) were performed during tissue expander to permanent implant exchange and 7 (43.8%) were standalone procedures. Final pathology revealed 1 positive margin (DCIS within 1mm of margin). No patients developed NAC necrosis following shave biopsy or underwent subsequent NAC removal. For total NAC excision patients, mean time from NSM was 1.7 +/- 1.4 months; 7 (43.8%) occurred during tissue expander to permanent implant exchange, 6 (37.5%) were standalone procedures, 2 (12.5%) occurred during axillary dissection, and 1 (6.3%) during resection of concomitant NAC necrosis. Three NACs were positive (1 IDC and 2 DCIS) on final pathology. Of the 6 patients that had no subsequent intervention, tumor pathology was DCIS in all cases. One patient received adjuvant radiation therapy. There was no evidence of tumor recurrence or morbidity in the entire positive margin cohort with a mean follow-up time of 2.4 years.

Conclusion: Rates of positive nipple margins following NSM are low, and harboring invasive carcinoma or DCIS within the NAC is extremely rare. Our data supports a less aggressive approach in managing positive nipple margins following NSM with a shave biopsy. Salvaging the NAC via subareolar shave biopsy is a reasonable and safe alternative to immediate NAC removal. Timing of intervention may be delayed until a subsequent procedure is required within the upcoming months. Further long term data is necessary to confirm the role of less aggressive management.
Background: Laparoscopic Roux-en-Y gastric bypass (LRYGB) is a bariatric procedure that has been performed with successful discharge on postoperative day 1 (POD1). There are limited studies on same-day discharge (POD0) after LRYGB. The objective of this study was to compare outcomes between patients discharged POD0 vs. POD1 after LRYGB.

Methods: The 2015 Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database was analyzed for adult, elective LRYGB cases for which patients were discharged on POD0 or POD1. Primary outcome measures included 30-day mortality and morbidity. Secondary outcome measures included 30-day readmission and reoperation rates. Outcome measures were risk-adjusted for patient demographic and clinical characteristics using multivariate logistic regression.

Results: A total of 9721 cases were analyzed, including 319 (3.3%) cases with POD0 discharge and 9402 (96.7%) cases with POD1 discharge. Median age was 44 years for both groups, and median BMI was 46.6 and 44.5 kg/m² in the POD0 and POD1 groups, respectively. Unadjusted mortality rates for patients discharged POD0 vs. POD1 were 0.94% vs. 0.05%, respectively (P=0.0017). Causes for death in the POD0 group included bleeding and respiratory failure, while causes for death in the POD1 group included intestinal obstruction and vein thrombosis. There were no differences between POD0 vs. POD1 groups for risk-adjusted overall morbidity (3.13 vs. 1.34%; adjusted odds ratio, AOR, 2.33; P=0.063), readmissions (3.45 vs. 3.66%; AOR 0.84; P=1) or reoperations (1.88 vs. 0.89%; AOR 2.33; P=0.243). The most common complication was surgical site infection for both groups (POD0 group: 1.25%; POD1 group: 0.76%). The most common reasons for readmission included abdominal pain, nausea/vomiting, or fluid/electrolyte depletion (POD0 group: 1.23%; POD1 group: 1.54%). The most common reason for reoperation was bleeding for the POD0 group (0.63%) and obstruction for the POD1 group (0.28%).

Conclusion: Discharge on the same day after LRYGB may be associated with worse mortality compared to discharge on the first postoperative day, with a trend toward increased morbidity. The practice of same-day discharge after LRYGB requires further study prior to widespread adoption.
Background: Along with contemporary systemic chemotherapy, surgical resection of colorectal liver metastases (CRLM) is associated with a significant survival benefit. However, the optimal surgical approach for patients with advanced bilobar CRLM is unknown. We therefore set out to compare the short- and long-term outcomes of two-stage hepatectomy (TSH) vs one-stage major hepatectomy with contralateral partial hepatectomy or ablation (OSH).

Methods: Patients with bilobar CLM who underwent right or extended right hepatectomy with treatment of synchronous segment I to III lesions between 1998–2015 were retrospectively reviewed. Postoperative outcomes and overall survival (OS) were compared between patients who underwent TSH versus OSH.

Results: Among 227 patients who met inclusion criteria, 126 (56%) underwent TSH, while 101 (44%) underwent OSH, including 29 (13%) without radiofrequency ablation (RFA) and 72 (32%) with RFA. Patients who underwent TSH had a greater number of metastases compared to those who underwent OSH (8.4 ± 6.8 vs 6.3 ± 3.7; p=0.01) as well as a greater number of treated metastases in segments I-III (1.9 ± 1.6 vs 1.5 ± 1.0; p<0.01). However, there were no significant differences in primary cancer site, nodal status of primary, preoperative carcinoembryonic antigen level, timing of liver metastases, or maximum diameter of the largest CLM (all p>0.05). TSH was associated with a significantly lower incidence of postoperative major complications (14% vs 26%, p=0.03) and postoperative hepatic insufficiency (PHI; 6% vs 20%, p=0.001) compared to OSH. Using an intention-to-treat methodology, the 5-year OS rates among patients who initiated TSH and underwent OSH were 35% and 24%, respectively (P=0.02). Among the 92 (73.0%) patients who completed both stages of TSH, the 5-year OS rate of 50% was significantly better than those who underwent OSH (24%, p<0.0001), even when stratified by OSH without RFA (20%, P=0.02) or OSH with RFA (24%, P<0.0001). On multivariate Cox proportional hazards regression analysis, OSH (analyzed as intention-to-treat) was significantly associated with worse OS (HR 1.46; 95% CI 1.05-2.02; P=0.02).

Conclusion: Among patients with advanced bilobar CLM, TSH is associated with lower rates of major complications, a lower incidence of PHI, and a longer OS duration compared to a strategy of OSH with contralateral resection or ablation.
Background: The 2014 Society of Surgical Oncology – American Society of Radiation Oncology consensus guideline on margins for breast conservation surgery with whole-breast irradiation for stage I-II breast cancer defined no tumor on ink as an adequate margin for invasive carcinoma. Its purpose was to decrease re-excision rates, improve cosmetic outcomes, and decrease health care costs. We sought to compare these parameters before and after implementation of these guidelines at an academic institution.

Methods: An IRB approved, prospectively maintained database was queried for patients with stage I and II invasive carcinoma who underwent partial mastectomy. Patients diagnosed by excisional biopsy and those who received neoadjuvant chemotherapy were excluded. Patients were divided into two groups based on whether they were treated before or after March 1, 2014: pre-consensus (PRE) or post-consensus (POST). The groups were compared with respect to re-excision rates, conversion to mastectomy, specimen volumes, average cost per patient of surgical care, and prospectively-collected patient post-procedure quality of life (QOL). Average cost was calculated using Center for Medicare and Medicaid Services procedure cost data and QOL was based upon patient responses to the breast satisfaction domain of the BREASTQ survey tool.

Results: A total of 237 patients who underwent partial mastectomy were examined: 126 in the PRE group and 111 in the POST group. Patients in the POST group were less likely to require re-excision (4/111 (4%) vs. 32/126 (26%) PRE, p<0.001) and were less likely to undergo conversion to mastectomy (6/111 (5%) POST vs. 18/126 (14%) PRE, p=0.02). A non-significant trend was also noted toward smaller final resection volume in the POST group (51.5 cm³ (range 9-216) POST vs. 81.0 cm³ (range 2.4-950) PRE, p=0.05). After consensus guideline implementation, average operative cost per patient decreased ($4247 POST vs. $5465 PRE, p<0.001), and patients had improved satisfaction with breast QOL scores (77/100 POST vs. 61/100 PRE, p=0.03). On multivariate analysis, implementation of the consensus statement was an independent predictor of decreased re-excision rates (Odds Ratio (OR) 0.17, 95% CI 0.08-0.38, p<0.001) and operative cost per patient (OR = 0.14, 95% CI 0.07-0.30, p<0.001). It was not an independent predictor of decreased total resection volume, likelihood of conversion to mastectomy, or improved breast QOL scores.

Conclusion: Implementation of the 2014 margin guidelines resulted in a significant decrease in the number of re-excisions and operative costs at an academic institution. They also decreased conversion to mastectomy and improved patient satisfaction with their breast after surgery on univariate analysis. Widespread implementation of the consensus guidelines on margins for breast conservation surgery will likely lead to the intended improvements in operative, financial, and cosmetic aspects of breast conservation surgery.
2. DO ALL POSITIVE MARGINS IN BREAST CANCER PATIENTS UNDERGOING A PARTIAL MASTECTOMY NEED TO BE RESECTED?

AB Chagpar MD MSc MPH MA MBA, TN Tsangaris MD, DR Lannin MD
Yale University School of Medicine

Presenter: Anees Chagpar MD, MSc, MPH, MA, MBA
Invited Discussant: Nicolas Ajkay MD, Louisville, KY

Background: Positive margins have been reported in 20-40% of patients undergoing a partial mastectomy (PM), often resulting in re-excision. How often the re-excision yields further cancer and whether there are predictors of residual disease remains unknown.

Methods: The SHAVE trial randomized patients undergoing a PM to have additional cavity shave margins (CSM) excised or not. We evaluated patients who had a positive margin (defined as tumor at ink for patients with invasive disease or within 1 mm for patients with DCIS) prior to randomization to determine the rate of additional disease either in CSM or at re-excision.

Results: Of the 235 patients in the trial, 82 (34.9%) had a positive margin prior to randomization. 43 of these patients were randomized to the “shave” arm; however, 12 patients of these patients did not have the positive margin shaved (6 anterior, 4 posterior, 1 both, and 1 other). Resection of the anterior and posterior margins was left to the discretion of the surgeon for patients randomized to the “shave” arm. Of the 39 patients who had a positive margin and were randomized to the “no shave” group, 12 did not undergo re-excision (3 anterior, 3 posterior, 6 other). The remaining 58 patients positive margin patients who either had CSM or re-excision formed the cohort of analysis. Median patient age was 59.5 years. The mean number of positive margins was 1.8 (range; 1-6); 62% of patients had only one positive margin. 21 patients (36.2%) had residual disease. On bivariate analysis, residual disease was more commonly associated with younger patient age (median 51 vs. 62 years, p=0.007) and presence of high grade DCIS (57.1% vs. 31.3% for grade 2 and 0% for grade 1, p=0.025). Of the 29 patients who were under the age of 60, further disease was found in 15 (51.7%); only 6 (20.7%) of the 29 patients who were ≥60 years of age had residual disease, p= 0.028. Factors found not to be associated with further disease included patient race, ethnicity, BMI, volume of resection, number of positive margins, extent of DCIS, and extent, grade, and histologic subtype of invasive cancer. On multivariate analysis, patient age < 60 remained a significant predictor of residual disease after resection of a positive margin (OR=3.920; 95% CI: 1.081-14.220, p=0.038).

Conclusion: Positive margins at the conclusion of PM are associated with further disease in over a third of patients, and aside from young age, there are no predictors of this. These findings support continued re-excision of positive margins, particularly in patients < 60 years of age.
3. GENDER DIFFERENCES IN LONG-TERM PATIENT-CENTERED OUTCOMES AFTER TRAUMA
JP Herrera-Escobar MD, A Ranjit MD MPH, C Weed MD MPH, SS Al Rafai MD, K Brasel MD MPH, G Kasotakis MD MPH, H M.A Kaafarani MD MPH, G Velmahos MD PhD, AH Haider MD MPH, A Salim MD
Brigham and Women’s Hospital

Presenter: Juan Pablo Herrera-Escobar, MD
Invited Discussant: Peter Rhee MD, MPH, Atlanta, GA

Background: Gender-related variation in post-injury pathophysiology and socio-cultural factors impacting immediate recovery after trauma have been suggested in prior studies; less is known about the association between gender and trauma-specific long-term outcomes. We sought to determine if disease-specific long-term trauma outcomes varied significantly by gender.

Methods: Trauma patients with Injury Severity Score [ISS] ≥9, admitted to three Level I trauma centers were identified retrospectively and contacted 6- or 12-months post-injury to evaluate: Health-Related Quality of Life, functional status, and posttraumatic stress disorder (PTSD). Multivariable logistic regression models adjusted for confounders (age, ISS, mechanism of Injury, length of stay) and clustered by facility were used to compare long-term functional status, pain, and PTSD between female and male patients at 6- and 12-months post-injury.

Results: 651 patients completed follow-up: 347 at 6-months and 304 at 12-months. 46% were female. In the 12-months post-injury cohort, females were significantly (p:<0.05) older (68 vs 50 years old), with lower ISS (13 vs 15), lower hospital length of stay (6 vs 8 days), and a lower proportion of penetrating (2% vs 11%) and motor-vehicle accident (23% vs 33%) injuries compared to males. Similarly in the 6-months after injury cohort, females were significantly older (65 vs 54 years old) and with a lower proportion of penetrating (1% vs 4%) and motor-vehicle accident injuries (26% vs 34%). However there were no significant differences in ISS (female: 13 vs men: 14) and hospital length of stay (female: 6 vs male: 7 days) in this cohort. At 6-months post-injury, compared to males, female patients were more likely to have at least one physical limitation for daily-activities (OR: 1.98 CI: 1.19-3.27), have pain on a daily basis (OR: 1.45 CI: 1.17-1.80), take pain medications daily (OR: 1.87 CI: 1.11-3.16), and screen positive for PTSD (OR: 1.79 CI: 1.33-2.40). At 12-months, females had higher odds (OR: 1.49 CI: 1.20-1.85) of having at least one physical limitation for daily-activities compared to males while the other differences were not found in this cohort.

Conclusion: There are significant gender differences in long-term trauma outcomes, which were predominantly found in the 6-months after injury cohort. Future research should explore gender-specific management strategies to achieve optimal long-term trauma outcomes for both genders.