P21. DOES HLA MISMATCHES ALTER THE OUTCOME OF ABO INCOMPATIBLE KIDNEY TRANSPLANTS
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Background: Despite countless national efforts to increase the number of available organ donors, the number of cadaveric kidney donors has remained relatively stable. For this reason, ABO living incompatible kidney transplantation has become an acceptable option for highly sensitized patients. Data on the influence of HLA matching among ABO incompatible renal transplant outcomes are sparse.

Methods: We performed a retrospective analysis of ABO incompatible transplant recipients over 18 years of age at the time of transplantation from the Organ Procurement and Transplantation Network (OPTN) Database between 2000 and 2013. Patients were categorized into 4 groups according to the level of HLA mismatch; 0, 1-3, 4-5, and 6 HLA mismatches (HLA MM). Associations between HLA MM and posttransplant graft failure and patient death were examined by Cox regression.

Results: There were 1266 ABO incompatible living transplant recipients. Of these, 7.3% had 0 HLA MM, 37.2% had 1-3MM, 43.2% had 4-5 HLA MM and 12.32% had 6 HLA MM. Compared to 4-5 HLA MM, only recipients with 0 HLA mismatch had a better kidney allograft survival [hazard ratio (HR) 0.52; 95% CI 0.29-0.91]. Whereas, recipients with 1-3 and 6 HLA MM showed no significant difference in graft survival over 13 year of follow up (HR 0.89; CI 0.69-1.13, HR 0.93; CI 0.64-1.34, respectively).

Conclusion: Zero antigen mismatched ABO incompatible transplants had a better kidney allograft survival compared to 4-5 HLA mismatches. There was no significant differences between 1-6 antigens mismatched in ABO incompatible recipients.
Background: Outpatient thyroidectomy with same day discharge has been slow to be accepted among endocrine surgeons, because of the concern for life-threatening postoperative hemorrhage. We postulate that efforts to achieve complete venous and arterial hemostasis during thyroidectomy plus an emergent management plan for cervical hematoma can make outpatient thyroidectomy a safe option.

Methods: A 6+ year retrospective analysis of previously unreported thyroidectomy procedures by a single surgeon was performed to assess for outpatient versus inpatient care, type of procedure, postoperative hemorrhage and resulting clinical outcome.

Results: Between August 2009 and January 2016, 1292 thyroidectomy procedures were performed, 1173 (90.8%) as an outpatient procedure and 119 (9.2%) as an inpatient procedure. Outpatient procedures included 670 total thyroidectomies (TT) +/- central lymph node dissection (CLND) (57%), 411 total lobectomies (TL) +/- CLND or partial thyroidectomy (PT) (35%), and 92 PT (8%). Inpatient procedures included 91 TT +/- CLND (76%), 19 TL +/- CLND or PT (16%), and 9 PT (8%). Five patients (3 TT, 1 TT + CLND, 1 PT) developed postoperative hemorrhage (0.39%), all outpatient, at postoperative 3, 9, 10, 13, and 42 hours after discharge. All 5 postoperative hematomas were successfully cleared in the operating room without bedside decompression, without postoperative adverse sequelae and with an average postoperative hospital stay of 2 days. There was no significant difference between TT, TL, and PT procedures for postoperative hematoma (p=0.17). Outpatient thyroidectomy compared to inpatient thyroidectomy was significantly more likely to have a lower American Society of Anesthesia score (2.3 vs 3.0, p<0.01), lower mean blood loss (84 vs 199 ml, p<0.01), less recurrent laryngeal nerve injury (2.8% vs 6.9%, p=0.01), but no significant difference for mean resected thyroid weight (33 vs 42 Gm, p=0.07), symptomatic hypocalcemia (6.5% vs 10.3%, p=0.12), 30 day postoperative emergency room visit (9.0% vs 10.3%), p=0.61), and postoperative hematoma (0% vs 0.43%, p=1.0).

Conclusion: A concerted effort to establish complete hemostasis after thyroidectomy results in very infrequent postoperative hemorrhage that can safely be managed without life-threatening complications, making outpatient thyroidectomy applicable to the majority of thyroidectomy procedures.
Background: Estimated blood loss (EBL) during pancreatoduodenectomy may be confounded by the presence of other fluids in the operative field, which may lead to over-resuscitation and unnecessary transfusions. We hypothesized that EBL is routinely overestimated, and designed a prospective trial that compared EBL to measured blood loss (MBL) determined by direct measurement of hemoglobin mass lost during surgery.

Methods: Consecutive patients undergoing pancreatoduodenectomy were consented for enrollment. Operating room nurses and anesthesiologists estimated blood loss as usual. MBL was calculated from a direct measurement of hemoglobin in canister fluids and operative sponges. EBL and MBL were compared with nonparametric Wilcoxon rank-sign test. A previously described formula was used to predict postoperative hemoglobin levels based on estimated blood loss, and this was compared to actual hemoglobin levels drawn on postoperative day 5.

Results: Of 48 patients consented, 43 were included for analysis. There were no deaths or reoperations. EBL (median: 600mL, range: 50-3125mL) was higher than MBL (median: 377mL, range: 7-5760mL), p=0.0046. Of operations where EBL >1000mL, the EBL was an overestimate in 88%. Eight patients (19%) were transfused, all of which had EBL >1000mL. Median EBL was higher than MBL in open operations (1050mL vs 486mL, n=26, p=0.0153), but not significantly higher in laparoscopic operations (400mL vs 236, n=17, p=0.1182). Neither neoadjuvant chemotherapy nor radiotherapy impacted the difference between EBL and MBL. After operations where EBL ≥1000mL, actual patient hemoglobin levels on postoperative day #5 were routinely higher than would have been predicted based on the EBL (median 9.8mg/dL vs 6.3mg/dL, n=16, p=0.0052).

Conclusion: In this prospective study of pancreatoduodenectomies, MBL was only 63% of EBL, and this effect was seen on a consistent basis. These results can be used to help temper intraoperative resuscitation and avoid transfusion in seemingly borderline clinical scenarios. At our center, these results will be championed in an effort to reduce our transfusion rate for pancreatoduodenectomy.
Background: Despite potentially curative surgery, the majority of patients with pancreatic adenocarcinoma succumb to recurrent or metastatic disease. Surgical trauma is known to induce upregulation of hypoxia inducible factor-1α (HIF1α). HIF1α regulates multiple cellular processes including angiogenesis, cell adhesion, oxygen transport and metabolism. We hypothesize that HIF1α activity is critical for the development of metastases in pancreatic adenocarcinoma.

Methods: A murine pancreas adenocarcinoma cell line (Pan02) was modified using short-hairpin RNA targeting HIF1α via lentiviral transduction to create Pan02-SH+ cells lacking HIF1α activity. C57/Bl6 mice underwent splenic injection of Pan02 or Pan02-SH+ cells followed by hemisplenectomy to create metastatic tumor dissemination. At 4 weeks, mice were euthanized for necropsy. Discrete metastases were counted by blinded observers. Tumor volume was calculated by (height x width²).

Results: Abrogating HIF1α activity decreased the number of hepatic metastases (Pan02 mean=11.5±2.0 vs. Pan02-SH+ mean=1.3±1.3; p=0.049) and decreased hepatic tumor volume (Pan02 mean volume=993±267.6 mm³ vs. Pan02-SH+ mean volume=65.5±65.5 mm³; p=0.015). There were also fewer discrete non-hepatic intraabdominal metastases in the Pan02-SH+ group (p=0.026).

Conclusion: HIF1α activity plays a critical role for the development of metastases in pancreatic adenocarcinoma. These data suggest targeting HIF1α activity at the time of surgical trauma may play a cogent role in preventing dissemination of pancreatic adenocarcinoma.
**Background:** Most patients with early stage breast cancer have a choice to undergo breast conserving surgery (BCS) or mastectomy. Whether the procedure women undergo is influenced by the provider they see has yet to be evaluated.

**Methods:** We identified women ≥18 years of age who underwent definitive surgical resection at our institution for stage 0-2 breast cancer 1/2010-8/2016. Patients with a prior history of breast cancer, bilateral cancer, or BRCA mutation were excluded. All patients were evaluated and educated by an internal medicine (IM) provider prior to surgical consultation. Univariate (UVA), and multivariable (MVA) analyses assessed associations of the operative procedure with age, race, education, marital status, BMI, smoking status, alcohol use, family history, histology, clinical tumor and nodal stage, neoadjuvant therapy, time from consultation to surgery, year of surgery, surgeon (N=8), and IM provider (N=13). UVA compared BCS vs unilateral mastectomy (UM) vs UM with contralateral prophylactic mastectomy (UM+CPM). Multiple MVA models compared performance of BCS vs UM, simple UM vs UM+reconstruction (UM+recon), and skin-sparing (SSM) vs nipple-sparing (NSM) mastectomy. The reference surgeon had the most years in practice and continues to practice and the reference IM provider had the greatest number of evaluated patients.

**Results:** 3,210 patients were included: 1776 (55.3%) BCS, 723 (22.5%) UM (431 simple, 187 SSM, 105 NSM), and 711 (22.2%) UM+CPM (164 simple, 341 SSM, 206 NSM). Mean patient age±SD was 60.3±12.7 years. UVA showed that breast surgeon (BCS vs UM vs UM+CPM, p<0.01) and IM provider (BCS vs UM, p=0.07) were associated with the procedure performed. Patients undergoing BCS were more likely to have a surgeon who was in practice for a greater number of years (mean 15.7 vs 14.7, p<0.01) and an IM provider in practice for a fewer number of years (mean 14.2 vs 14.9, p=0.02). On MVA, 3 surgeons were more likely to perform BCS (vs UM) than the reference surgeon (ORs 2.03, 1.91, 1.52; all p<0.01) and 1 surgeon was less likely than the reference surgeon to perform a UM+recon (vs simple UM, OR 0.60; p=0.04). One IM provider was more likely to have patients undergo a UM (vs BCS, OR 2.40; p=0.02) compared to the reference IM physician. Two IM providers were less likely to have patients undergo a UM+recon than the reference physician (vs simple UM, ORs 0.31, 0.48; ps<0.05). Of patients undergoing UM+recon, 5 surgeons were less likely than the reference surgeon to perform a NSM (vs SSM,ORs 0.12, 0.22, 0.26, 0.06, 0.59; all p<0.02). IM provider was not statistically significant.

**Conclusion:** For patients with early stage breast cancer, both the IM physician and the breast surgeon are independently associated with the surgical procedure performed, emphasizing the role providers play in their patients’ treatment.
**Background:** The dual intragastric dual balloon is a saline filled device that works by occupying space within the stomach, inducing satiety and leading to weight loss. This can be used to treat obesity and has been approved for individuals with a body mass index (BMI) 30-40 kg/m². Only a few studies exist for dual gastric balloon devices in the U.S. Here we report our outcomes in weight loss, laboratory values, and comorbidity remission with the intragastric dual balloon.

**Methods:** 23 patients with complete data points underwent intragastric dual balloon placement between September 2015 and January 2017 at a single institution. All patients had a BMI > 30 kg/m² with at least one significant comorbidity. The intragastric balloon was inserted endoscopically without complications, and removed endoscopically at six months following initial placement. Anthropometric data including patient weight, blood pressure, BMI, and percentage of excess weight loss (%EWL) were recorded before placement and at 2 weeks, 3 months, and 6 months afterwards. Laboratory values were recorded before placement, 3 months and 6 months afterwards. Two-tailed paired t-tests were used to assess statistical significance.

**Results:** Patients were 49.4 years old, 65.2% female, and 69.6% Caucasian. Average time for balloon placement was 35.6 + 13.3 minutes. Mean BMI prior to placement was 39.8 + 1.75 kg/m². 10 patients had hypertension and 7 had hyperlipidemia. Patients lost a significant amount of weight at 2 weeks (16.9%EWL, p<0.0001), 3 months (36.8%EWL, p<0.0001), and 6 months (46.1%EWL, p<0.0001) following balloon placement. Patients also saw a significant decrease in systolic blood pressure at 3 months (p=0.0146) and 6 months (p=0.0202). Patients had a statistically significant decrease in LDL levels (p=0.0105) and in cholesterol levels (p=0.0102) at 6 months. Hypertension was resolved in 8 out of the 10 patients, and hyperlipidemia was resolved in 2 out of the 7 patients at 6 months following balloon placement.

**Conclusion:** Our study finds consistent and significant weight loss using the dual intragastric balloon with no significant complications. Our study additionally finds promising decreases in lipid laboratory values and systolic blood pressure, as well as remissions in hypertension and hyperlipidemia. This confirms previous findings that the dual intragastric balloon is a promising endoscopic treatment for obesity.