Mini Talk| Neurological surgery

Opening the Window of Neuroprotection: MCB-613 Application in Acute Ischemic Stroke

Sean O'Leary BA, BSA
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Introduction/Background

A stroke is an interruption of the blood supply to any part of the brain. Neuroprotection is a therapeutic strategy to extend the window for brain reperfusion by reducing neurological injury. Our study aims to test whether a novel steroid receptor coactivator, MCB-613, can act as an effective neuroprotective agent.

Methods:

Twenty Sprague Dawley rats underwent middle cerebral artery occlusion, obtained by inserting a 0.41 mm diameter filament into the internal carotid artery and advancing until occlusion. Occlusion time was set for 90 minutes and confirmed by 70% drop from baseline perfusion as measured by laser doppler. MCB-613 or saline was administered through intraperitoneal injection 120 minutes after occlusion.

Every 24 hours, the animal underwent behavioral testing using a modified Bederson scale and again received either MCB-613 or saline. After the 4-day survival period, brain tissue was sliced into 2 mm segments following euthanasia and stained with 2,3,5-triphenyltetrazolium to measure infarct volume. Apoptosis was measured by TUNEL and Neuron-Specific Enolase immunostaining, whereas microglia were examined by IBA-1 Fluorescence Intensity.

Results:

Behavioral results demonstrate that subjects treated with MCB-613 suffered significantly less neurologic impairment (p

Conclusion

Our study suggests that MCB-613 has potential as a neuroprotectant for acute ischemic stroke. Further histologic analysis is needed to uncover the mechanism and microglial phenotype of MCB-613.

Previous data on 1-day survival confirms the neuroprotectant value of MCB-613 seen in this 4-day analysis. 1-day survival trials showed subjects treated with MCB-613 suffered significantly less neurologic impairment (p

Mini Talk| General Surgery

Surgical outcomes in patients with a history of intra-abdominal cancer undergoing ventral hernia repair

Syed Bokhari MD
Baylor University Medical Center

Introduction/Background

Many cancer survivors live with complex abdominal wall hernias. These have been shown to significantly impact their quality of life as they have major physical, social, and emotional repercussions. From a surgeon perspective, these can be challenging to manage due to potential for postoperative complications such as wound complications caused by chemotherapy and/or radiation, hospital-acquired infections, and DVT/PE. Even though these risks are legitimate concerns, there is limited data evaluating the outcomes of ventral hernia repair in patients with a history of intra-abdominal cancer (IAC). This study aimed to analyze outcomes in patients with history of cancer undergoing Ventral Hernia Repair (VHR).

Methods:

A retrospective review of our institution's database from January 2014 to February 2022 was used to identify patients undergoing ventral hernia repair with a history of IAC. These patients were compared to a control group of patients who underwent ventral hernia repair without a history IAC. Demographics, operative factors, and perioperative outcomes were collected for both groups. Risk adjusted analysis was then used to measure the effect of IAC on length of stay, 30-day outcomes, and hernia reoccurrence.

Results:

428 hernia repair patients were identified (IAC: 76, No IAC: 352). When comparing baseline characteristics, patients with history of IAC had higher rates of hypertension (64.5% vs 46.2% p

Conclusion

Patients with a history of IAC cancer can undergo VHR without an increased risk for postoperative complications.

Mini Talk| General Surgery

Surgical Site Infections and Wound Dehiscence Following Non-Cosmetic Surgeries Abroad

Sarah Mazal MS
Texas Tech University HSC - El Paso

Introduction/Background

On the United States-Mexico border, binational movement to access medical care is common practice. Although one-third of U.S. border residents lack health insurance, residents with health insurance similarly seek medical care across the border suggesting a sought-after, distinct culture of medicine. This study assesses factors related to surgical complications from procedures received abroad presenting to a large health system on the Texas-Mexico border.

Methods:

A retrospective chart review was conducted including patients who received care an academic health system in El Paso, Texas, for surgical site infections (SSI) or wound dehiscence related to any surgical procedure performed abroad between October 2015 and May 2021. Data collected included demographics, procedure performed, interventions required, and outcomes. Data analysis was conducted using Microsoft Excel to report descriptive statistics for the cohort.

Results:

Of the 390 patients presenting with a SSI or wound dehiscence, 44 (11.2%) received their primary procedure abroad in the border city Ciudad Juarez, Mexico, and 25 (56.8%) of those were non-cosmetic surgeries. These 25 patients had a mean age of 45.2 years, identified as female (72%), primarily Spanish-speaking (68%), with a primary home in El Paso County (80%). They underwent gastrointestinal (44%), gynecologic (24%), orthopedic (8%), and dental (8%) operations. Most patients (56%) initially returned to their primary surgeon in Mexico for their complication. Upon presenting in the U.S., 72% received IV antibiotics and 40% required revision procedures with 12% requiring more than two operations. Nearly one-third (28%) had positive body site cultures, with Escherichia coli (23.5%) as the most common microorganism. Average LRINEC score was 3.8 (standard deviation 3) for the 8 patients with reported CRP lab values. Hospital length of stay average was 15.7 days (standard deviation 15.6) and 72% were discharged on IV antibiotics. Most patients (64%) did not have insurance and the average cost of hospital stay was $306,245.62.

Conclusion

Given the unique culture of binational travel to access medical care, border regions pose a unique challenge to physicians in disseminating patient education related to the potential risks and financial burdens involved in seeking care abroad.

Mini Talk| Surgical Education

Barriers to Breastfeeding During Surgery Residency

Simin Golestani MD
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Introduction/Background

The American Academy of Pediatrics recommends exclusive breastfeeding for a period of 6 months, followed by continued breastfeeding with introduction of foods until the infant is at least 2 years of age. Breastfeeding is an emotionally and physically challenging endeavor. These difficulties are even more pronounced for surgery residents who are breastfeeding and pumping after returning to work. We hypothesize that impediments to breastfeeding exist among surgery resident mothers and that opportunities for improvement for this unique group can be identified and are actionable

Methods:

An online survey was distributed to female general surgeons among a private, verified surgeon mothers' group on social media and through the Association of Program Directors of Surgery listserve. The inclusion criteria were female surgeons who had a baby during surgery residency. Breastfeeding was defined as feeding an infant directly and/ or using a breast pump. Survey results were tabulated, and analysis was performed using SAS. Respondents had the option to give open-ended comments on their breastfeeding experience; these comments were collected and categorized.

Results:

A total of 282 women responded to the survey. The years in which they gave birth ranged from 1992-2021, with 90% of births occurring after 2009. Most women breastfed their babies during the PGY-5 (31%), PGY-4 (16%), PGY-3 (19%) or research (16%) years. Most women were planning to breastfeed for 6 months (22%) or 12 months (56%). The majority of women (70%) pumped, on average, every 2-4 hours and 63% stated that they did not have adequate time for pumping. The most common locations where women pumped were a call room (49%), office (16%), or lactation room (17%), with 50% of women stating they rarely or never had access to a lactation room at their primary institution. After returning to work, 67% of mothers said that their milk supply diminished and 62% agreed that the time constraints of surgical residency impacted the total duration they breastfed. Although 75% of the women felt supported by co-residents and 67% felt supported by their attendings when they needed to pump during the workday, 54% of women stated that they did not feel comfortable asking for time to pump. Overall, 63% of women felt they had a positive experience breastfeeding. The free response comments collected supported the above data and can be seen in the table below. Important insights frequently identified among these comments were the need for lactation rooms closer to operating rooms with electronic medical record access.

Conclusion

Although women subjectively had a positive experience breastfeeding and felt supported by their peers, there was a lack of structural support, resources and dedicated time. These deficiencies may have contributed to decreased lactation and length of time surgical residents were able to breastfeed their infants. Providing easily accessible and well equipped lactation rooms, while creating a culture of support is essential for breastfeeding surgical residents.

Mini Talk| Quality & Safety

Risk-Adjusted Cumulative Sum Utilization to Analyze Surgeon, Divisional, and Institutional Performance in Real Time

Kyle Blackburn BS
Baylor College of Medicine

Introduction/Background

Few objective, real-time measurements of surgeon performance exist. Most performance metrics are delivered on a quarterly or annual basis at the institutional level. In contrast, risk-adjusted cumulative sum (RA-CUSUM) can track surgeon-level outcomes on a continuous basis. The objective of this study was to implement RA-CUSUM to monitor outcomes following colorectal operations and identify clinically relevant performance variations.

Methods:

The National Surgical Quality Improvement Program (NSQIP) was queried to obtain patient-level data for 1612 consecutive colorectal operations at a high-volume center from 2011-2020. For each case, expected risks of morbidity, mortality, reoperation, readmission, and anticipated prolonged length of stay (LOS) were estimated using the NSQIP risk calculator. RA-CUSUM curves were generated to signal observed-to-expected odds ratios (OR) of 1.5 (poor performance) and 0.5 (exceptional performance). Control limits were set based on a false positive rate of 5% ($\alpha = 0.05$).

Results:

The cohort included data on seven surgeons: Surgeon A = 861 cases; Surgeon B = 28; Surgeon C = 24; Surgeon D = 131; Surgeon E = 208; Surgeon F = 106; Surgeon G = 54. Institutional observed vs expected outcomes were: morbidity 12.5% (vs 15.0%), mortality 2.5% (vs 2.0%), prolonged LOS 19.7% (vs 19.1%), reoperation 11.1% (vs 11.3%), and 30-day readmission 6.1% (vs 4.8%). RA-CUSUM identified within- and between-surgeon performance variations across all metrics. Representative surgeon-level morbidity RA-CUSUM curves are shown in Figure 1. Surgeon A delivered lower-than-expected morbidity (OR1.5), suggesting a rapid learning process. In contrast, Surgeon F remained within the expected morbidity rate for the duration of the study period.

Conclusion

RA-CUSUM adjusts for patient-level risk factors to provide real-time data on surgeon-specific outcomes. This approach enables prompt identification of performance outliers and can contribute to quality assurance, root-cause analysis, and incentivization not only at the surgeon level, but at divisional and institutional levels as well.

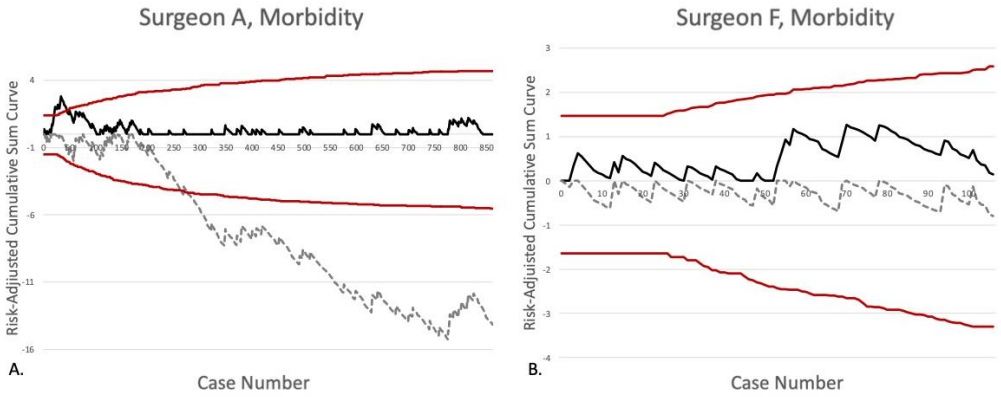

Figure 1. RA-CUSUM curves for surgical morbidity. Red lines represent expected performance. The solid black line crossing the top red line represents worse than expected performance (Figure 1A, OR >1.5). The gray, dashed line crossing the lower red line represents better than expected performance (Figure 1A, OR <0.5). Curves within the red lines represent performance within the expected range (Figure 1B).

Mini Talk| COVID-19

Vaccine Hesitancy Among Healthcare Workers in West Texas

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Introduction/Background

The COVID-19 vaccine was made available in December of 2020 with healthcare workers prioritized in the early vaccine rollouts. Vaccine hesitancy was seen in multiple demographics and included healthcare workers. The purpose of this study is to look at vaccine hesitancy among healthcare workers in the West Texas area and explore the self-reported reasons for their hesitancy.

Methods:

Surveys were distributed electronically to four healthcare facilities in the West Texas region. Responses were collected from October 26, 2021, until March 15, 2022. The survey included an initial 4 binary questions to certify whether respondents were indeed healthcare workers in the appropriate region, vaccine eligible, immunization status, and if experiencing hesitancy

towards vaccination. An additional 10 questions formatted on a Likert scale were utilized as a comprehensive review of vaccination attitudes and reasons for hesitancy.

Results:

A total of 154 responses were received with eight responses excluded as they did not fit the eligibility criteria. For the purpose of this study, healthcare workers were defined as physicians, nurses, physician assistants, respiratory therapists, administrative staff, and nurse practitioners. A total of 82.9% (121) of respondents reported getting the COVID-19 vaccine series or starting the series. While 37.7% of HCW's reported being hesitant about the COVID-19 vaccine. The hesitant group of respondents selected fear of vaccine safety given the rapid rollout as a major concern with 17.9% strongly agreeing with this sentiment. Additionally, fear of undiscovered lasting effects was similarly important to this group with again 17.9% strongly agreeing. Less emphasis was allocated to the notion of not requiring vaccination given the subjective health of respondents accruing 5.7% strong agreeance. A feeling of COVID-19 exaggeration received 3.6% strong agreeance and lastly the perception that the vaccine is more harmful than natural immunity had 2.9% of respondents strongly agreeing.

Conclusion

These results support the fact that there is vaccine hesitancy among healthcare workers in West Texas. Assessing these factors at a population level and among different cohorts is essential to obtaining higher vaccination rates. Determining reasons for hesitancy can provide public health officials with sufficient information to determine further vaccine roll out strategies and marketing strategies to further increase compliance with recommended practices.

Mini Talk| Education

Leveraging Whole person paradigm with self-paced LeaderU program for Well-being of Surgical Residents

Nawal Moin MD
Texas Tech University - Lubbock

Introduction/Background

Resident burnout and engagement greatly impact patient care. Therefore, resident wellbeing is deemed an essential component of training programs by the Accreditation Council for Graduate Medical Education (ACGME). Lack of protected time for wellness training and lack of structure for wellness curriculum continues to pose a challenge. This study offered a self-paced online learning system, LeaderU by Franklin Covey on volunteer basis and compared the well-being among those who attended with those who did not.

Methods:

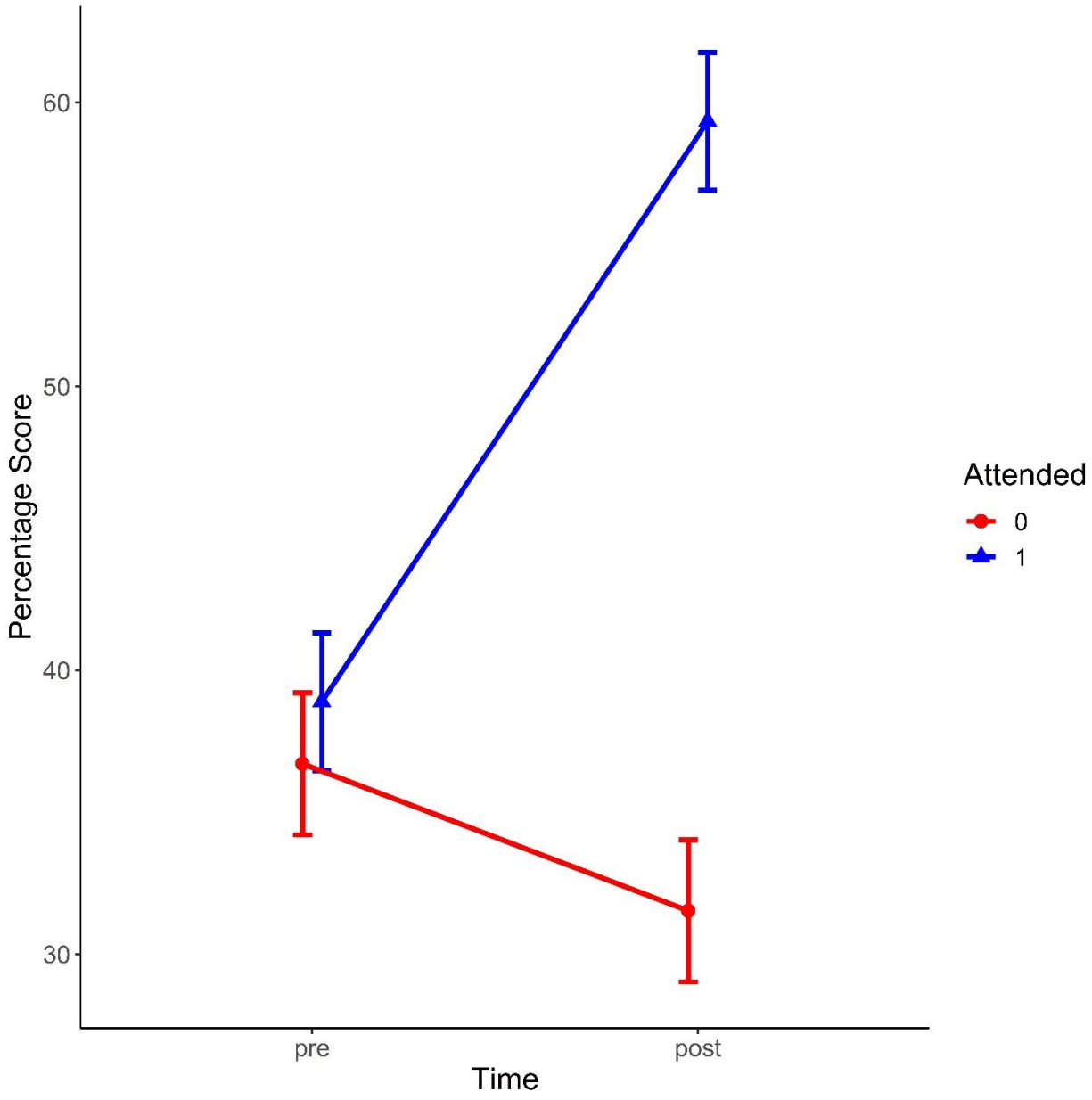
A prospective study encompassing the survey of surgery residents utilizing WHO-5 Well-being index at baseline and after completion of the volunteer-based LeaderU intervention program was approved by IRB. The WHO-5 Well-being index (5 item questionnaire) was computed for survey responders before and 6 months after the program. The pre and post score difference was compared between those who participated and those who did not. A certified facilitator conducted weekly debriefing sessions for participants of the program. All statistical analyses were conducted using R statistical software (R version 4.1.3). The effects of time, attendance to the workshop, and their interaction on the raw score and percentage score of the WHO-5 Well-Being Index (1998 version) were examined in a two-way analysis of variance (ANOVA). Subsequent post-hoc comparisons were adjusted for family-wise error rate using Tukey's correction. The Family-wise error rate was maintained at 0.05. The evidence of internal consistency was assessed using Cronbach's alpha. Missing values were replaced by the last observation carried forward.

Results:

Out of a total of 31 residents, 30 (97%) filled out the base-line survey; 21 (68%) participated in the LearderU intervention program. 28 (90%) residents completed the post intervention survey. Of the 21 residents who participated in the LeaderU course 18 (86%)completed both pre and post intervention surveys.Two-way ANOVA of the raw score WHO-5 Well-Being Index revealed significant main effects for time ($F_{1,66} = 10.54$, $p = 0.002$) and attendance ($F_{1,66} = 36.99$, $p < 0.001$) and a significant time x attendance interaction ($F_{1,66} = 27.00$, $p < 0.001$). Specifically, the raw score of the WHO-5 Well-Being Index was increased in the residents who participated in the workshop compared to those who did not attend ($\Delta = 5.11$[2.85, 7.38] vs. $\Delta = -1.29$ [1.04, -3.62]). Similar values were seen with the percentage score. There was a 20.44% [11.39, 29.50] improvement in WHO-5 Well-Being Index in residents who participated in the study. Cronbach's alpha coefficient for the questionnaire was 0.81 [0.70,0.89, n =30].

Conclusion

LearderU program participation significantly impacted the well-being score among surgery residents. The self-paced nature with guided debriefing sessions renders this approach feasible and reproducible across training programs. Larger studies will need to confirm our findings.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Mini Talk| Education

Implementation of Entrustable Professional Activities: A Quality Improvement Approach

Angela Le MD
University of Texas Medical Center - San Antonio

Introduction/Background

The COVID-19 pandemic decreased the operative case volume for surgical residents. Entrustable Professional Activities (EPAs) were implemented at our institution in all core surgical training programs in an effort to document competency of graduating residents during the 2020-2021 academic year. EPAs are units of professional practice that can be fully entrusted to a trainee after they have demonstrated necessary competence to execute an activity unsupervised. A 5-month pilot project implemented EPAs in general surgery, neurosurgery, otolaryngology, obstetrics and gynecology, ophthalmology, orthopaedic surgery, integrated thoracic surgery, and urology, with moderate success. The participating residency programs viewed the pilot as an improvement in evaluation and feedback for their residents. Continuation of this project aimed to improve implementation by collaborating with program directors (PD) to address specific barriers associated with EPAs with low completion rates.

Methods:

This project occurred at a large academic center with eight surgical specialties involved over 17 months. Five EPAs were chosen per specialty to represent common disease processes in their field. Every specialty was encouraged to name one EPA in a clinical area that was at risk due to the COVID-19 pandemic. Each resident was tasked with engaging faculty to fill out three micro-assessments per EPA. After a 5-month pilot, specific barriers were identified through survey data and collaboration with PDs, leading to modification of some EPAs in addition to further faculty and resident development to improve participation.

Results:

Seventy senior residents in eight specialties completed 732 (80.8%) of the 906 planned EPA micro-assessments. Of these, 99.7% were deemed practice ready. Across all specialties, the completion percentage ranged from 54.2% to 100%. There was a higher percentage of micro-assessment completion in the second iteration of this project in 2021-2022 than the 5-month pilot in 2021 (87.2% vs 75.1%, $p < 0.05$). Four specialties had increased total micro-assessment completion rates ($p < 0.05$). Two specialties retained 100% completion rate. Four specific EPAs (including one EPA identified as being at risk due to the COVID-19 pandemic) showed significant improvement in completion rates ($p < 0.05$). The PD survey noted barriers to implementation of EPA micro-assessments and PD perceptions of the utility of EPAs; barriers included lack of faculty motivation and increased paperwork.

Conclusion

Implementing EPAs is achievable in all surgical specialties at an institution. With sustained effort, improvements in assessment completion can be achieved when initial implementation is expectedly imperfect. A quality collaborative initiative focused on barriers to implementation can contribute to incremental improvement in compliance of evaluation completion, much like clinical quality improvement collaboratives can lead to improved outcomes.

Table 1. Comparison of micro-assessment completion rates

	Neurosurgery	Obstetrics and Gynecology	Ophthalm-ology	Orthopaedic Surgery	Otolaryng-ology	General Surgery	Integrated Thoracic Surgery	Urology	Total
2021	28/30 (93.33)	72/90 (80)	60/60 (100)	40/72 (55.56)	30/30 (100)	65/120 (54.17)	15/15 (100)	48/60 (80)	358/477 (75.05)
2021-2022	30/30 (100)*	84/90 (93.33)*	60/60 (100)	46/60 (76.67)*	24/24 (100)	60/90 (66.67)	10/15 (66.67)	60/60 (100)*	374/429 (87.18)

Note: number of completed micro-assessments / requested micro-assessments (percentage completed)
*P-value < 0.05

Mini Talk| Thoracic Surgery

Thoracoscopic Decortication in Solid Organ Transplant Patients: Is it Safe?

Shawn Purnell MD
Houston Methodist Hospital

Introduction/Background

Thoracoscopic decortication is widely used to effectively treat lung entrapment1. However, 30-day mortality rates up to 15% are reported in immunosuppressed solid organ transplant patients undergoing decortication2. Our study sought to determine institutional safety of thoracoscopic decortication in immunosuppressed transplant patients.

Methods:

We performed a retrospective chart review of thoracoscopic decortications at a single academic institution between January 2017 and April 2021. Patients were stratified into the transplant cohort if they underwent prior solid organ transplant (heart, lung, liver, kidney, pancreas). Demographics and results were extracted from the electronic medical record. Two-sided Student's t-test was used to compare continuous variables. Chi-squared tests were used for categorical variables using Prism 9 software. Statistical significance was defined as p

Results:

There were 163 patients that underwent thoracoscopic decortication: 132 non-transplant and 31 transplant patients. There were no statistically significant differences between the non-transplant and transplant patients in age, gender, race or body mass index. Transplant patients had higher rates of diabetes (61.4%, p=0.01), hemodialysis (51.6%, p0.999). Transplant patients had longer operative times (214 minutes, p=0.037), hospital length of stay (LOS) (35.4 days, p5 days, pulmonary embolus, ventilatory support >48 hours, reintubation, tracheostomy, respiratory failure or new renal failure.

Conclusion

Solid organ transplant patients undergoing thoracoscopic decortication demonstrated no statistical difference in 30-day mortality compared to non-transplant patients. Thoracoscopic decortication in transplant patients appear safe, however, transplant patients required longer operative times, longer hospital LOS, and higher level of care on discharge. Further studies are needed to validate these findings.

Table 1. Demographics and Outcomes of Patients Undergoing Thoracoscopic Decortication

	Non-Transplant n= 132	Transplant n= 31	p value
Demographics			
Age (y)	62.7 (21-94)	57.1 (26-79)	0.058
Gender			0.151
Male	89 (67.4%)	17 (53.1%)	
Race			0.352
White	88 (66.7%)	17 (54.8%)	
Black	17 (12.8%)	4 (12.9%)	
Other	27 (20.5%)	10 (32.3%)	
BMI	27.3 (14.8-51.5)	27.5 (18.8-44.5)	0.864
CAD	33 (25.0%)	7 (22.6%)	>0.999
CVA	10 (7.6%)	3 (9.7%)	0.714
CHF	28 (21.2%)	4 (12.9%)	0.451
HTN	83 (62.9%)	19 (61.4%)	>0.999
DMII	35 (26.5%)	16 (51.6%)	0.010*
COPD	11 (8.3%)	2 (6.5%)	>0.999
PVD	3 (2.4%)	0 (0%)	>0.999
PreOp HD	16 (12.1%)	16 (51.6%)	<.001*
eGFR	66.1 (5-90)	58.8 (7-90)	0.19
Cigarette Use	57 (43.2%)	12 (38.7%)	0.691
Operative Type			0.029*
VATS	69 (52.3%)	8 (25.8%)	
RATS	63 (47.7%)	23 (74.2%)	
Outcomes			
Duration of procedure (min)	178.0 (43-458)	214.0 (60-483)	0.037*
Length of stay (d)	15.3 (1-99)	34.5 (5-186)	<0.001*
Time (d) from admit to surgery	6.2 (0-70)	11.6 (1-41)	0.007*
Post operative length of stay (d)	**9.1 (0-48)**	**22.8 (4-164)**	**<0.001***
Prolonged postoperative LOS (>19d)	**35 (26.5%)**	**17 (54.8%)**	**0.005***
Unexpected reoperation	6 (4.6%)	4 (12.9%)	0.098
Air leak >5 d duration	6 (4.6%)	1 (3.2%)	>0.999
Pulmonary embolus	2 (1.5%)	0 (0%)	>0.999
Ventilator support >48 h	16 (12.1%)	7 (22.6%)	0.153
Reintubation	7 (5.3%)	3 (9.7%)	0.403
Tracheostomy	3 (2.3%)	2 (6.5%)	0.241
Respiratory failure or ARDS	2 (1.5%)	1 (3.2%)	0.471
New renal failure	2 (1.5%)	0 (0%)	>0.999
Discharge location			0.001*
Home	100 (79.4%)	18 (58.1%)	
LTACH	12 (9.5%)	11 (35.5%)	
Inpatient Rehab	14 (11.1%)	2 (6.5%)	
Readmission 30 days of procedure	20 (14.1%)	10 (32.3%)	0.033*
Operative Mortality	**5 (3.79%)**	**1 (3.23%)**	**>0.999**

Mini Talk| Thoracic Surgery

Use of Modified Vizient Dashboard to Track Outcomes after Pulmonary Resection

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Houston Methodist Hospital

Introduction/Background

Vizient is an administrative database that tracks the length of hospital stay (LOS), mortality, and readmission after a given procedure and provides an estimate of observed to expected LOS and mortality. We aimed to determine if the modified Vizient dashboard is a valid way to measure pulmonary resection outcomes.

Methods:

All lobar and sublobar pulmonary resections performed at our division in a single institution, a tertiary referral hospital, were identified in the Vizient database. Random lung biopsies and bleb resections were excluded. We collected demographics, comorbidities, social history, pulmonary function tests, and surgical information. Generalized linear modeling was performed to determine the characteristics associated with expected LOS and expected mortality. We also examined the LOS index, mortality index, and 30-day readmission rates of similar institutions.

Results:

During the study period, 184 patients were identified in the dataset and included for analysis. We first examined if the expected LOS and expected mortality were associated with known factors that would extend LOS and increase the risk of mortality. Multivariable analysis showed that expected LOS was associated with congestive heart failure (beta coef. 0.88, 95% CI 0.04, 1.71, p=0.04), pulmonary hypertension (beta coef. 3.22, 95% CI 1.56, 4.88, p< 0.001), and anatomic resection (beta coef. 1.10, 95% CI 0.73, 1.48, p< 0.001). Expected mortality was associated with older age (beta coef. 0.01, 95% CI 0.01, 0.02, p< 0.001), male gender (beta coef. 0.53, 95% CI 0.37, 0.70, p< 0.001), pulmonary hypertension (beta coef. 0.82, 95% CI 0.82, 95% CI 0.01, 1.63, p=0.047), lower FEV1 (beta coef. -0.01 95% CI -0.01, 0, p=0.03). The LOS index was 0.63, and the mortality index was 0 for the institution. The 30-day readmission rate related to surgery was 2.2%. When compared to other institutions, the LOS index, mortality index, and readmission rate were better than 95% of similar institutions (Table 1).

Conclusion

The modified Vizient dashboard automatically captures all pulmonary resections performed in our institution. The expected LOS and expected mortality were associated with known clinical factors. The modified Vizient dashboard can provide relative ranking information to similar programs. The modified Vizient dashboard is a way of measuring quality and allows for easy monthly monitoring of the pulmonary resection program.

Table 1. Vizient risk model for pulmonary resection and excision at similar institutions (n=95)

Percentile	Mortality Index	LOS Index	30-day Readmission (%)
95	0.31	0.77	4.39
90	0.47	0.82	5.22
85	0.53	0.85	5.70
80	0.57	0.87	5.99
75	0.60	0.90	6.23
70	0.67	0.93	6.53
65	0.68	0.94	6.79
60	0.72	0.95	7.15
55	0.80	0.96	7.35
50	0.86	0.98	7.79

Mini Talk| Transplantation Surgery

Percutaneous Plugged Liver Biopsy for Potential Organ Donors Improves Safety and Cost Profiles

Dakota Doucet BS
Southwest Transplant Alliance

Introduction/Background

Liver biopsies have become a standard of care in field of liver transplant with potentially marginal livers requiring a biopsy prior to recovery, with the pre-recovery biopsy technique of choice being percutaneous liver biopsies (PLB). PLBs can be a safe procedure, but risks can include pneumothoraces and intra-abdominal hemorrhage, complications that have the potential to lead to either an expedited organ recovery with a decreased number of organs transplanted per donor (OTPD) or even the loss of the potential donor. In this quality improvement study, we examined the use of plugged biopsies (PB) on brain-dead organ donors for the potential to mitigate hemodynamic instability.

Methods:

All PLBs were conducted by organ procurement organization (OPO) staff at bedside on brain-dead donors. Donors were placed in the supine position with right arm raised above head. The biopsy sites were then marked using ultrasound guidance, after which a small incision using a scalpel was made at the intended biopsy site. A biopsy needle (Bard Mission Disposable Core Biopsy Kit) with external sheath was then used at the angle intended and to the depth indicated based upon the aforementioned ultrasonic imaging. After obtaining one or more biopsies through the external sheath, a slurry of a hemostatic agent (originally Surgifoam and subsequently BloodStop iX) and normal saline was used to infiltrate the entirety of the tract. The biopsy tract was then plugged as the sheath was advanced out of the donor. The donor was then monitored until organ recovery.

Results:

From January to August 2022, multiple episodes of hemodynamically significant bleeding occurred necessitating expedited organ recovery (kidney-only) and one tension pneumothorax resulting in the loss of a potential donor. Of the PLBs conducted between September 2022 to the October 2022, this OPO has conducted multiple liver biopsies with no hemodynamic instability or pneumothoraces. Anecdotally, intra-abdominal bleeding also decreased dramatically. No donor has been lost and there have been no expedited organ recoveries because of PLB complications.

Conclusion

Through the use of bedside PBs using a hemostatic agent (and progressing to more cost-effective hemostatic agents), this OPO was able to improve the quality of care for donors by preventing hemodynamic instability associated with PLB while simultaneously decreasing cost. Ultimately, this resulted in no lost donors, reduced financial cost, and the opportunity maximize the donors' OTPD in settings where liver biopsy was required. To the authors' knowledge, there has been no use of bedside PBs on brain-dead donors documented in the literature.