



**Texas ACS – Stronger Together
Poster Abstracts**

POSTER SESSION 1 -- CASE REPORTS

Poster #91

JEJUNAL DIVERTICULITIS, AN UNUSUAL CAUSE OF A SURGICAL ABDOMEN: A CASE REPORT AND REVIEW OF THE LITERATURE

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Presenter: Barret Halgas MD

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BACKGROUND: Uncommon and usually silent, small bowel diverticulosis (SBD) is rarely discussed in the surgical literature. Symptomatic SBD most commonly occurs in the jejunum and can lead to serious complications not readily elicited from the history and physical. SBD is poorly visualized both radiographically and intraoperatively given its location within the small bowel mesentery.

CASE: We present a 53 year old male who was initially misdiagnosed with bacterial enteritis on computed topography and admitted to Internal Medicine for bowel rest and antibiotic therapy. General surgery was consulted three days later for peritonitis and the patient was found to have jejunal diverticulitis. He successfully underwent surgical resection with primary anastomosis.

METHODS: Not applicable to case report

RESULTS: Not applicable to case report

DISCUSSION: In our review of the literature, few complications of SBD are correctly diagnosed preoperatively. The result is a delay in diagnosis and increased morbidity and mortality. There have been mixed results regarding the use of antibiotics in these patients, therefore the authors feel strongly that resection of the diseased segment is still the gold standard for definitive treatment. This case illustrates several key challenges in the diagnosis and management of the disease.

POSTER SESSION 1 -- CASE REPORTS

Poster #92

BILATERAL INTERNAL ILIAC ARTERY ANEURYSMS LEADING TO COMPLETE COLONIC OBSTRUCTION; A CASE REPORT

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Presenter: Hashim Hanif MD

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BACKGROUND: Isolated iliac artery aneurysms (IAA) are uncommon, with an overall incidence of 0.03%. The incidence of IAA associated with an abdominal aortic aneurysm is higher.

OBJECTIVE: We present a case of a 74-year-old gentleman with bilateral fusiform aneurysmal dilation of his common and internal iliac arteries respectively.

METHODS: The left iliac aneurysm was ruptured represented by active bleeding adjacent to the left iliac aneurysm.

RESULTS: He underwent emergent endovascular stenting of the left common and left internal iliac arteries. The patient then developed a large bowel obstruction secondary to the right aneurysm and left hematoma, underwent an angiography which showed the aneurysm extending from the right common iliac to proximal external iliac and internal iliac arteries. Stenting of the right common to the right external iliac artery with an extension into the internal iliac artery was done. The patient did well after the procedure and continued to have multiple bowel movements.

CONCLUSION: Our described case is the only one to have undergone endovascular stenting to treat bilateral iliac aneurysms and describes the feasibility of endoscopic management of colonic obstruction.

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Poster #93

APPENDICITIS IN AN APPENDIX VERMIS DUPLEX: A CASE REPORT

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Presenter: Alejandro Garza

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BACKGROUND: One of the most common consults for the general surgeon is appendicitis. An intraoperative finding of a double appendix is extremely rare with < 100 cases reported worldwide since it was first described in 1892. We present a case of a patient who presented to the ED with acute appendicitis and was found to have appendix vermiformis duplex.

OBJECTIVE: Evaluate and identify intraoperative finding of a double appendix

METHODS: Case report and review of literature

RESULTS: A 19 year old male presented to the ED with a 3 day history of epigastric abdominal pain associated with nausea and vomiting. No relevant past medical or surgical history. Physical exam demonstrated tenderness at Mc Burney's point and a positive Rovsing sign. A CT scan of the abdomen and pelvis was consistent with acute appendicitis and possible phlegmon. The patient underwent a laparoscopic appendectomy and two inflamed cecal appendices were identified. The first appendix was dissected to the base and divided with a 45 mm laparoscopic stapler. The same procedure was performed with the second appendix. Both mesoappendices were included in the staple lines. There were no signs of perforation on either appendix. Pathology reported two ileocecal appendices with one showing acute inflammation of the muscular wall and the second with no significant changes. The post-operative course was uneventful and the patient was discharged on post-op day one. He was seen one week later with no new complaints and was recovering well.

CONCLUSION: Appendix vermiformis duplex is a very rare condition with an incidence of 0.004% to 0.009%; or, 2 in 50,000 appendices. Several classifications have been created to categorize appendicular anatomical variations. The most utilized was created by Cave in 1936, which was later modified by Wallbridge in 1963 creating the currently used Cave-Wallbridge classification. There are some anatomical variations not included in this classification such as a horseshoe appendix, which probably arises from a single base appendix that splits during development, or a triple appendix. Double vermiform appendix has been found to mimic cases of intussusceptions. It has also been associated with Meckel's diverticulum and adenocarcinoma. As evidenced by our case, appendicitis may occur in only one of the two appendices. When both appendices are diseased this

can lead to bowel obstruction. Leaving a normal second appendix behind may lead to a future second appendicitis, misdiagnosis, delay in diagnosis, perforation, abscess, or peritonitis. In conclusion, it is important to be aware of the different anatomical abnormalities that can be found during an appendectomy since missing or misdiagnosing a second appendix can have significant clinical and medicolegal consequences.

POSTER SESSION 1 -- CASE REPORTS

Poster #94

A UNIQUE PRESENTATION OF ECTOPIC THYROID TISSUE, A CASE REPORT

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Presenter: Erika Allen

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BACKGROUND: Ectopic thyroid is the most common form of thyroid dysgenesis, but its presentation varies. Common presentations of ectopic thyroid include incidental, asymptomatic, functional hypo- or hyperthyroidism, and mass effect. Typical thyroid location follows thyroid development, which begins at the base of the tongue and then follows the thyroglossal duct down to the anterior cervical neck between the second and fourth tracheal cartilages. This case presents a painful ectopic thyroid, an unusual presentation, in an atypical location. With the clinical background of the patient's subjective feeling of a fish bone stuck in her throat, her acute presentation, and inconclusive imaging, this case proved to be a diagnostic dilemma.

OBJECTIVE: This case aims to present a new presentation of ectopic thyroid tissue. Discussion of the case will further expand the understanding of ectopic thyroid tissue and its presentations. This interesting case reiterates the management of similar presentations as surgical intervention. It also serves as a reminder to perform due diligence in the work up of a patient without compromising the patient's safety to do so.

METHODS: History and physical revealed a 61-year-old female who presented with acutely worsening history of left throat pain and dysphagia after swallowing a fish bone. A CT scan showed a foreign body in the anterior wall of the cervical esophagus. EGD studies were inconclusive. Surgical exploration identified and excised a multinodular cystic lesion without connection to esophageal lumen. Pathology described multinodular thyroid parenchyma with chronic inflammation and no evidence of malignancy. No foreign body was located.

RESULTS: Based on the patient's history, imaging, and acute presentation, an esophageal perforation with abscess formation was the most likely diagnosis. Surgical exploration was the necessary intervention for this patient's acute symptoms as both a diagnostic and therapeutic tool. The diagnosis of ectopic thyroid tissue from pathology of the excised cystic lesion was unexpected, as the location of tissue and the painful presentation are not typical characteristics of ectopic thyroid tissue. Management of this case illustrates the dilemma faced in determining the appropriate work up for a patient, without compromising the patient's safety.

CONCLUSION: Though this painful presentation of ectopic thyroid tissue is rare, ectopic thyroid should be included as a differential diagnosis of point tenderness with an associated mass or lesion on imaging in any location.

POSTER SESSION 1 -- CASE REPORTS

Poster #95

SPONTANEOUS ENDOMETRIOSIS ASSOCIATED WITH AN UMBILICAL HERNIA: A CASE REPORT AND REVIEW OF THE LITERATURE

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Presenter: Yury Ragoza DO

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BACKGROUND: Umbilical endometriosis is a rare condition accounting for 0.5 to 1% of endometrial ectopia. It usually develops in previous surgical scars but very rarely presents as spontaneous umbilical endometriosis. The occurrence of a primary umbilical endometrioma in the presence of an underlying hernia is extremely rare and can present a diagnostic challenge to the general surgeon.

OBJECTIVE: To describe the presentation and management of endometriosis associated with an underlying umbilical hernia.

METHODS: A comprehensive review of the English literature using PubMed and Medline was performed and only 7 of these cases have been described. We present a case report and review the literature analyzing all data available.

RESULTS: Review of the literature indicates that the median age of presentation was 38 years (18 – 47 years). The majority of patients had cyclical symptoms, although pain and swelling unrelated to the menstrual cycle have been described 16. Time to presentation was usually long (2 months – 5 years) suggesting that the symptoms are difficult to interpret and the diagnosis of primary umbilical endometriosis can be elusive. All patients were treated surgically with resection and hernia repair.

Our patient had cyclical symptoms and preoperative imaging demonstrating an umbilical nodule and an underlying hernia. Rather than attempting to separate the nodule from the hernia sac, we recommend resecting them en-bloc along with the umbilicus to reduce the chance of spillage and disease recurrence. The hernia defect was repaired primarily as it was less than 2 cm in diameter. Mesh repair is recommended for larger or recurrent hernias especially in obese patients.

CONCLUSION: Spontaneous umbilical endometriosis with an underlying hernia is extremely rare and often missed preoperatively. Preoperative suspicion warrants imaging for better operative planning and patient counseling. Surgery is the mainstay of treatment and consists of en-bloc excision of the umbilicus, implant and the hernia sac to avoid residual disease and reduce recurrence. The hernia defect can be repaired primarily or using mesh and the umbilicus reconstructed using skin flaps if necessary. Follow-up with a gynecologist is essential to address pelvic disease.

POSTER SESSION 1 -- CASE REPORTS

Poster #96

CARDIAC TRANSPLANTATION IN A PATIENT WITH SITUS INVERSUS TOTALIS AND CONGENITALLY CORRECTED TRANSPOSITION

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BACKGROUND: Transplantation in patients with situs inversus is surgically challenging. We present a case of an adult with situs inversus totalis and congenitally corrected transposition that underwent cardiac transplantation.

OBJECTIVE: The patient is a 62-year-old female with situs inversus totalis, congenitally corrected transposition of the great arteries, and non-ischemic cardiomyopathy who presented to our facility on dual inotropes for consideration of advanced heart failure therapies. She is blood group A, with a height of 165cm, and weight of 53.6kg. Right heart catheterization demonstrated: CVP 18, PAP 51/19/38, PCWP 31, PVR 3.4 woods unit, and cardiac index of 1.65L/min/m². The patient was approved and listed for cardiac transplantation. She continued to deteriorate despite increasing inotrope doses. She adamantly refused a ventricular assist device.

METHODS: On hospital day 25, a suitable donor was located. The donor was a 34 year-old male with a height of 173cm, weight of 67kg, O-positive blood type who died of a traumatic brain injury after a fall. EKG was normal. Echocardiogram showed an ejection of 65%, normal wall thickness, and no significant valvular abnormalities.

RESULTS: The recipient underwent bicaval orthotopic heart transplantation. Total donor ischemic and warm ischemic times were 138 and 45 minutes, respectively. The donor cardiectomy was performed with en bloc removal of the superior vena cava (SVC) and both innominate veins. For the recipient cardiectomy, most of the donor right atrium and interatrial septum were preserved. These structures were tubularized into a conduit to extend the patient's left sided inferior vena cava (IVC) and allow rightward positioning. The left atrial, pulmonary artery, and aortic anastomoses were constructed in the standard fashion. The IVC anastomosis was performed to our tubularized conduit in the typical rightward position. After a warm dose of cardioplegia, de-airing maneuvers were performed and the cross-clamp was removed. While the patient was rewarmed and the heart was reperfused, the SVC anastomosis was reconstructed by tunneling the donor SVC-left innominate vein complex through the transverse sinus and performing an end-to-end anastomosis to the recipient left SVC. The patient was weaned from cardiopulmonary bypass without difficulty. She was extubated POD 2, transferred to telemetry POD 3, and discharged POD 14.

CONCLUSION: Orthotopic heart transplantation in patients with situs inversus totalis is surgically challenging. Understanding reconstructive options for cardiac transplantation in patients with congenital anomalies is important to ensure a successful outcome. In our case, alternate strategies for caval anastomoses were necessary for implantation of the donor heart.

POSTER SESSION 1 -- CASE REPORTS

Poster #97

DOUBLE TROUBLE THREE DECADES IN THE MAKING: HOW A COMPLEX RETAINED FOREIGN BODY REMAINED UNDETECTED FOR 30 YEARS

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Presenter: Melanie Bobbs MD

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BACKGROUND: Iatrogenic retained foreign bodies and associated presenting symptoms are well described in literature. Delayed presentation several decades following the initial open abdominal surgery with intervening laparoscopic procedure that failed to detect the retained gossypiboma and surgical instrument is rare.

OBJECTIVE: To report a unique case of retained foreign bodies thirty years following initial procedure.

METHODS: We report the case of a 51-year-old female who presented to the Emergency Department with several days of increasing abdominal pain. The patient's only open abdominal surgery was a caesarean section thirty years prior. She also had a laparoscopic tubal ligation ten years ago in which no foreign bodies or intraperitoneal masses were identified. On physical exam, a painful abdominal mass was palpable in the left lower quadrant. CT imaging with 3-D reconstruction demonstrated a complex mass containing a retained hemostat surrounded by a surgical sponge and significant inflammatory process. Exploratory laparotomy was performed to address the complex mass including the foreign bodies.

RESULTS: At laparotomy, the mass was observed eroding into the sigmoid with an area of contained perforation. The mass was resected en-block with the sigmoid, and an end-to-end anastomosis was performed. The specimen was examined at the back table and confirmed the presence of a hemostat wrapped in a surgical sponge that had degenerated into a rigid, wood-like, material. Surgical counts were correct at the conclusion of our procedure, and abdominal x-ray demonstrated no retained equipment. The patient's postoperative course was complicated by a pelvic abscess which was treated with percutaneous drainage and intravenous antibiotics with complete resolution.

CONCLUSION: Retained foreign bodies are uncommon but a well documented surgical complication. We present an unusual case of an intra-abdominal retained hemostat and surgical sponge that remained asymptomatic and undetected even through a laparoscopic procedure for thirty years.

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Poster #98

MCCUNE-ALBRIGHT SYNDROME: A RARE CAUSE OF ORTHOPEDIC PAIN

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Presenter: Alex Forrester

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BACKGROUND: An 18-year-old nulliparous woman presented to a university pelvic pain clinic for a second opinion on chronic pelvic pain management. Previously, the patient had undergone two operative laparoscopies and told she had endometriosis despite absence of histologic confirmation. Upon examination, the patient indicated that the pain was more localized to right inguinal region and ilium. She reported pain in her legs and bones dating back to childhood. CT of the pelvis revealed diffuse lytic lesions in the right iliac bone, right femoral neck, and proximal shaft suspicious for malignancy. CT-guided biopsy showed no signs of malignancy with histologic features consistent with polyostotic fibrous dysplasia. Upon further examination, café-au-lait lesions were noted in the left posterior leg and right posterior thigh further, consistent with McCune-Albright syndrome. History was negative for precocious puberty. Further investigation for endocrinopathies associated with McCune-Albright syndrome (MAS) was negative. Patient was referred to orthopedic surgery for management.

The presence of polyostotic fibrous dysplasia and café-au-lait spots in the absence of precocious puberty and other endocrine disorders is sufficient to make the diagnosis of McCune-Albright syndrome.

DISCUSSION: This is an interesting case in which bone pain due to polyostotic fibrous dysplasia was perceived by patient and physician as pelvic pain. McCune-Albright Syndrome is a non-hereditary genetic syndrome, caused by a postzygotic activating mutation in the GNAS gene. The GNAS gene codes for the α -subunit of the Gs protein coupled receptor. The mutation in MAS leads to the constitutive activation of the α -subunit resulting in permanent activation of adenylyl cyclase. Since the specific mutation is postzygotic, mosaicism results in varying degrees of severity and manifestations. MAS is a rare disorder which has a reported incidence of 1:100,000 to 1:1,000,000

and can involve the skeletal, integumentary, and endocrine systems. The most common skeletal abnormality found is fibrous tissue in multiple bones (polyostotic fibrous dysplasia). Café-au-lait spots of the skin are often found after careful physical examination and more commonly have irregular borders (“coast of Maine”). Finally, a variety of hyperfunctional endocrinopathies (such as hyperthyroidism and acromegaly) can manifest in patients with MAS, while Cushing’s syndrome is a less common finding. Isosexual central precocious puberty is often the earliest clinical manifestation but was not present in this case.

Patients with MAS require careful surveillance by endocrinology, orthopedic surgery, and other specialists as needed given their high risk for long-term endocrine and/or orthopedic complications.

METHODS: We report the case of an 18-year-old nulliparous female who presented to a university pelvic pain clinic for a second opinion on chronic pelvic pain management after receiving the diagnosis of endometriosis. The patient indicated the pain was localized to the right ilio-inguinal region. Pelvic CT revealed diffuse lytic lesions in the right iliac bone, right femoral neck, and proximal shaft suspicious for malignancy. CT-guided biopsy showed no signs of malignancy with histologic features consistent with fibrous dysplasia. Upon further investigation *café-au-lait* lesions were discovered on the left posterior leg and right posterior thigh. The patient was then diagnosed with McCune-Albright syndrome.

RESULTS: The patient was referred to orthopedic surgery for management of pelvic pain.

CONCLUSION: MAS is a rare disease which manifests in a unique way in each afflicted patient, which may lead to early misdiagnosis. Managing patients with MAS requires a multidisciplinary team including, orthopedics, endocrinology, physiatry, endocrine surgery and sometimes craniofacial surgeons.

POSTER SESSION 1 -- CASE REPORTS

Poster #99

INCARCERATED PARAESOPHAGEAL HERNIA IN A PREGNANT FEMALE, A CASE REPORT

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Presenter: Matthew Wynn

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BACKGROUND: Incarcerated paraesophageal hernias can be deadly but are fortunately rare. The stomach is the usual incarcerated organ and is at risk for ischemia causing tissue necrosis, and ultimately death of the patient.

OBJECTIVE: Pregnant patients can develop a range of surgical emergencies. We report a rare case of an incarcerated, obstructed paraesophageal hernia.

METHODS: We report the case of a 23 year old female who presented at 22 weeks pregnancy with an incarcerated, obstructed paraesophageal hernia. The patient had complete oral intolerance and was admitted to the labor and delivery floor. CT obtained by the obstetrician showed a hiatal hernia with about a third of the stomach in the chest, including the gastroesophageal junction. Conservative management was attempted but the patient continued to vomit and was progressively tachycardic. After four days the decision to operate was made and a laparoscopic paraesophageal hernia repair was performed with a Nissen fundoplication.

RESULTS: The patient and fetus did well but the postoperative course was complicated by a right lower lobe pneumonia. The patient recovered uneventfully and went on with her pregnancy.

CONCLUSION: Pregnancy is not a contraindication to operating when necessary. A laparoscopic approach is preferred for most urgent cases in pregnancy with no increase in morbidity to the mother or fetus. Laparoscopic paraesophageal hernia repair is feasible and safe in pregnancy.

POSTER SESSION 1 -- CASE REPORTS

Poster #100

PNEUMATIC INJURY TO COLON RESULTING IN TOTAL ABDOMINAL COLECTOMY WITH ILEO-RECTAL ANASTOMOSIS

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Presenter: Colin Martyn M.D.

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BACKGROUND: Pneumatic injury to the colon can occur following unplanned gas insufflation (oftentimes the result of a prank) or planned gas insufflation (as in colonoscopy). Injury to the anorectal tract can occur even when compressed air is sprayed over clothing. Of the few existing case reports for this clinical presentation, most have observed perforation around the rectosigmoid junction following insufflation. Complications from pneumatic colon injuries can be deadly if unrecognized and/or untreated.

OBJECTIVE: We will present our experience with a young male who required urgent laparotomy as a result of pressurized air insufflation into the gastrointestinal tract.

METHODS: Here we describe the case of a 24 year old male who presented to the ED with complaints of sharp abdominal pain, distention, and 2 episodes of non-bloody, non-bilious emesis approximately 1 hour after having compressed air shot into his rectum at his workplace. The patient was a mechanic at a tire shop and had an air compressor fired on his bare buttocks as a prank while he was bent over. He then proceeded to have an episode of watery brown diarrhea and then presented to the ED. The patient then developed diffuse abdominal bloating and pain that was 10/10 in severity and exacerbated by movement and palpation. The patient received a CT scan of the abdomen and pelvis shortly after ED arrival. After obtaining the CT results, a nasogastric tube was inserted and the patient was taken to the OR for urgent laparotomy.

RESULTS: On ED arrival, the patient had a blood pressure of 173/98, pulse of 66, respiratory rate of 18, and temperature of 36.9°C. Physical exam revealed diffuse abdominal tenderness in all four quadrants with rebound tenderness and tympany on percussion. The patient had an elevated WBC count of 15, with otherwise normal hemoglobin and hematocrit, platelet count, BMP, coagulation studies, and liver function tests.

CT of the abdomen demonstrated diffuse large bowel distention with air-fluid levels, left colon decompression, and multiple foci of free air in the small bowel mesentery and distal anterior wall tracking to the right perineal region and scrotum. Laparotomy revealed a 10 cm deserosalization extending through the whole length of the colon with wall contusion and impending perforation. Interestingly, the proximal sigmoid colon was spared. Total abdominal colectomy with ileo-rectal anastomosis was performed and the patient tolerated the procedure well without complications. He continued to feel well with return to normal bowel habits at his 9 month and 1 year post-operation follow-up appointments.

CONCLUSION: Given the severe and life-threatening nature of most pneumatic colon injuries, patients presenting with a history of accidental air compressor activation near the anus should be urgently evaluated for colonic perforation, with particular attention to the rectosigmoid junction, a common site of perforation in pneumatic colon injuries.

POSTER SESSION 1 -- CASE REPORTS

Poster #101

A CASE REPORT OF SMALL BOWEL OBSTRUCTION FOLLOWING LAPAROSCOPIC INGUINAL HERNIA REPAIR SECONDARY TO BARBED SUTURE USE

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Presenter: Brittany Bankhead-Kendall MS, MD

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BACKGROUND: Early small bowel obstruction due to foreign materials is a known and potentially serious postoperative complication. The utilization of barbed sutures has increased in the last several years, particularly for laparoscopic and robotic procedures in general surgery. Although this new suture has proven to have some specific benefits, it can also act as a nidus for intraperitoneal complications.

OBJECTIVE: Our objective is to provide a case report in which V-loc® barbed suture caused a post-operative early small bowel obstruction.

METHODS: n/a

RESULTS: Herein we report a 20 year-old man who had a small bowel obstruction secondary to the use of a V-loc® barbed suture during a bilateral laparoscopic inguinal hernia repair. The patient underwent an exploratory laparotomy and surgical removal of the V-loc® suture, and made a complete recovery without complications.

CONCLUSION: Small bowel obstruction, secondary to barbed suture, should be included in the differential diagnosis whenever this type of suture is used in a surgical procedure. To aid in decreasing the incidence of this complication, the distal end of the barbed suture should be cut as short as possible, and the peritoneal defect closed tightly.

POSTER SESSION 1 -- CASE REPORTS

Poster #102

INGUINAL HERNIA REDUCTION EN-MASSE, A CASE REPORT

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BACKGROUND: Inguinal hernia is a common surgical problem encountered with an elective as well as an emergent presentation. Clinical presentation of incarcerated or painful hernia has remained as a challenge for treatment. Surgical practice varies from emergent exploration to taxis at bedside. While taxis has been described and may even achieve an acceptable outcome most of the time, in few occasions perforation at the neck at time of reduction will lead to frank peritonitis. A lesser reported outcome can be equally disastrous with reduction en-masse not manifesting as profound peritonitis till much later. It is important for clinicians to be aware of this rare possibility and be cautious at enthusiastic attempts at taxis or reduction.

OBJECTIVE: To describe a case of a inguinal hernia reduction en-masse

METHODS: A 55 year old man was admitted after persistent pain over the lower abdominal region 12 hours after self reduction of a right inguinal hernia. This hernia has been noted for 15 years by the patient and has been self-reduced by the patient on multiple occasions. This, however, was not

evaluated by a surgeon. Clinical evaluation at time of admission was consistent with localized peritonitis not amounting to generalized peritonitis. Due to lack of clarity on the clinical diagnosis, CT abdomen was performed. A clinical suspicion of a reduction en-masse of inguinal hernia was confirmed with CT and emergent surgery was performed. Palpation of the abdomen after induction of anesthesia revealed a firm globular structure arising from the right inguinal region. It was not possible to palpate below the lesion indicating extension to the inguinal canal. A lower midline laparotomy was performed. A reduction en-masse of right inguinal hernia was noted. This was reduced to reveal strangulated ileum of 10 cm. Resection and end to end anastomosis was performed. The patentulous internal inguinal ring was noted, was approximated with interrupted absorbable sutures. He made an uneventful recovery. Definitive repair of the inguinal hernia was deferred for few months.

RESULTS: Reduction En-Masse has been estimated to be occurring at 1 in 13,000 inguinal hernias. Predominantly the reduction is attempted by physicians but the index hernia was reduced by the patient. Clinical suspicion should be heightened after taxis with possible perforation or reduction en-masse to be considered carefully. Although a safe approach would be to explore and repair the hernia even after successful reduction was achieved, this practice varies. If a patient is sent home with an elective hernia repair planned, this complication may be missed and will lead to peritonitis, septic shock and death.

CONCLUSION: This case reports illustrate the importance of accurate history and physical exam and importance of a clinical diagnosis rather than relying on imaging. Reduction en-masse is an important clinical diagnosis to be aware of.

POSTER SESSION 1 -- CASE REPORTS

Poster #103

INTERNAL HERNIA THROUGH A DEFECT BETWEEN A THE SIGMOID COLON AND LEFT FALLOPIAN TUBE

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Presenter: Michelle Estrada M.D.

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BACKGROUND: Small bowel obstruction accounts for >300,000 operations annually in the United States, making up 16% of the surgical admissions. Small bowel obstructions are most commonly caused by adhesive disease, almost always caused by prior abdominal surgeries. Hernias, both external and internal, are the third most common cause of SBOs. Approximately 1% of small bowel obstructions is caused by internal hernias.

OBJECTIVE: We report a case of a 61-year-old woman with past surgical history of Roux-en-y gastric bypass 31 years prior and bilateral tubal ligation with reversal, who presented a 3-day history of nausea, vomiting, abdominal pain and obstipation. Abdominal computed tomography revealed a transition point in the left lower quadrant.

METHODS: The patient was taken to the operating room and underwent laparoscopy. She was found to have a segment of small bowel herniating through a defect of an adhesion between the left fallopian tube, left ovary and sigmoid colon. The herniating small bowel was reduced through the defect. The defect was then closed in a running fashion using V-Loc suture.

RESULTS: The patient tolerated the operation well. She was started on a regular diet on post-operative day two, which she tolerated well. She was subsequently discharged in stable condition.

CONCLUSION: Even though internal hernias are rare, it must be included in the differential diagnosis of a patient presenting with small bowel obstruction, especially in those with prior surgical history.

POSTER SESSION 1 -- CASE REPORTS

Poster #104

WHAT NOT TO DO: GLOBAL ENDOMETRIAL ABLATION WITH AN IN SITU INTRAUTERINE DEVICE

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Presenter: Derek Yang

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BACKGROUND: Abnormal uterine bleeding may be treated conservatively or by surgical management. Hormonal therapy, levonorgestrel eluting intrauterine device (LNG-IUS), endometrial ablation (EA), and hysterectomy are different techniques used to treat various forms of abnormal uterine bleeding. Typically, hormonal contraception or the LNG-IUS is first-line conservative management. In the case of failure, endometrial ablation or hysterectomy may be considered. If an IUD is present, it must be removed prior to global endometrial ablation.

OBJECTIVE: We present an unusual case where endometrial ablation was performed by an outside physician despite a LNG-IUS still present in the uterine cavity.

METHODS: A 43yo G2P2 presented to a local physician with a history of abnormal uterine bleeding. Workup of her abnormal bleeding was not available to us. A LNG-IUS (Mirena) was placed into the uterine cavity; however, it was deemed not to be effective after 2 months. Radiowave global endometrial ablation (Novasure) was then performed with LNG-IUS left in situ. Years later, attempts were made to remove the IUD, but the strings detached from the device, suggesting embedding into the uterus or uterine perforation. She presented to Texas Tech for discussion of management options. Since the ablation, she experienced uterine cramping associated with periodic light bleeding. The intensity of her dysmenorrhea was worse than before the endometrial ablation. The patient also complained of deep dyspareunia. Sono and CT demonstrated the IUD to be in the uterine cavity with possible myometrial involvement. Hysteroscopy was performed to remove the IUD incidental to a bilateral skin-sparing mastectomy with placement of expanders for carcinoma of the breast. Parenthetically, LNG-IUS is contraindicated in the presence of hormone receptor positive breast cancer.

RESULTS: Hysteroscopy revealed 75% of the IUD embedded in the myometrium with only a small portion of the shaft visualized. Attempts were made to pull it out with the hysteroscopic grasper failed. The IUD was successfully removed by dissecting out the upper shaft and lateral arms, and the IUD was removed intact.

CONCLUSION: Endometrial ablation is indicated in premenopausal women complaining of chronic heavy menstrual bleeding who have failed medical therapy. Absolute contraindications to endometrial ablation include malignancy, pregnancy, infection, desire for future pregnancy, and current IUD placement.² In a review of the literature using PubMed, we did not find a prior case report of endometrial ablation performed with an IUD in utero. Not unexpectedly, the IUD had scarred into the myometrium following radiowave destruction of the endometrium making removal particularly difficult. The patient's pelvic pain, at least in part, was likely to the decision to leave the IUD in place at the time of ablation.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #105

SUCCESSFUL CLOSURE OF CATASTROPHIC ABDOMEN UTILIZING NOVEL TECHNIQUE COMBINING A MECHANICAL CLOSURE SYSTEM WITH BIOLOGIC XENOGRAFT THAT ACCELERATES WOUND HEALING

Yana Puckett MD MPH MS; Michelle Estrada MD; Catherine Ronaghan MD

Presenter: Yana Puckett MD, MPH, MS

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BACKGROUND: Closure of catastrophic open abdominal wounds presents a challenge to the surgeon. We present a case series of a technique utilizing a combination of mechanical abdominal closure device in conjunction with biologic xenograft in closing complex open abdominal wounds.

OBJECTIVE: To present a new technique of complex abdominal wall closure.

METHODS: Six patients underwent closures of open abdominal wounds utilizing technique of combining mechanical wound closure system with biologic xenograft. ABRA® dynamic wound closure system was placed initially and adjusted daily until fascial closure was achieved. MatriStem® urinary porcine bladder matrix was then placed in the wound above closed fascia. Information was abstracted on age of patient, body mass index (BMI), time to closure, and percentage of total fascia closed. Results were recorded utilizing measurements and photographs pre and post closure.

RESULTS: The average age of patient was 47.8 (SD 10.5) years. Mean BMI of patient was 43.1 (SD 12.8). Delayed primary fascial closure was achieved an average of 10 (SD 3.7) days. Delayed primary fascial closure was achieved in 100% of patients. An overall reduction in wound area was achieved in 100% of patients.

CONCLUSION: In conclusion, this technique offers another option for definitive fascial closure and accelerated wound healing in this difficult patient population. The utilization of ABRA® dynamic wound closure system in conjunction with MatriStem® biologic xenograft combines both mechanical and biologic advantage that warrants further research.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #106

MIND THE GAP: CURRENT TREATMENT ALTERNATIVES FOR GERD PATIENTS FAILING MEDICAL TREATMENT AND NOT READY FOR A FUNDOPLICATION

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Presenter: Steven Leeds MD

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BACKGROUND: Gastroesophageal reflux disease is associated with Barrett's esophagus, esophageal adenocarcinoma, and majorly impacts quality of life. Medical management is the first line therapy with surgical fundoplication as an alternative therapy. Only a small portion of patients are referred for surgical consultation. This creates a "gap" in therapy for the patients unsatisfied with medical therapy but aren't getting referred for surgical consultation. Three procedures have been designed to address these patients. These include Stretta, TIF, and LINX.

OBJECTIVE: Systematic review to compare outcomes of Stretta, TIF, and LINX procedures, fundoplication, and PPI for GERD.

METHODS: A Pubmed literature review was conducted of all publications for Stretta, TIF, and LINX. Four most common endpoints for the 3 procedures were compared at different intervals of follow up. These include percent of patients off PPIs, GERD-HRQL, DeMeester Score, and percent of time with pH less than 4.

RESULTS: For percent of patients off PPIs, Stretta reports outcomes from 43% at 6 months to 23% at 10 years, TIF reports outcomes from 32% at 3 months to 36% at 6 years, and LINX reports outcomes from 89% at 3 months to 78% at 5 years. For quality of life assessment scores, Stretta reports outcomes from 6.4 at 6 months to 9 at 10 years, TIF reports outcomes from 10 at 3 months to 8.1 at 3 years, and LINX reports data from 2.8 at 3 months to 3.7 at 5 years. For DeMeester Scores, Stretta reports only one study with no normalization of score at 6 month follow up, TIF reports 9 studies and none show normalization of scores, LINX reports 6 studies with all normalizing scores except one study. For percent time less than pH 4, Stretta reports 7 studies with 2 showing normalization, TIF reports 17 studies with 3 studies showing normalization, and LINX reports 6 studies and all report normalization.

CONCLUSION: Our literature review compares 3 rival procedures to treat “gap” patients for GERD with 4 common endpoints. LINX appears to have the most reproducible and linear outcomes, but is the most invasive of the 3 procedures.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #107

PATHOLOGIC FINDINGS OF THE GALLBLADDER IN PATIENTS UNDERGOING SURGERY FOR BILIARY DYSKINESIA

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Presenter: HASSAN AHMED MD MRCSI

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BACKGROUND: Cholecystectomies have been shown to be effective for patients with symptomatic cholelithiasis, but have shown variable success in patients with acalculous gallbladders. Some studies attempted to correlate factors such as gallbladder ejection fraction by hepatobiliary iminodiacetic acid (HIDA) scans as indicators of pathology in cholecystectomy patients, to our knowledge there are only few studies that have compared the direct pathologic characteristics such as cholecystitis and cholesterosis of acalculous gallbladders with biliary dyskinesia.

OBJECTIVE: In this study, we focus on and assess the gallbladder pathology reports of patients who underwent cholecystectomy for biliary dyskinesia to determine the prevalence of pathologic changes among patients undergoing surgery for dyskinesia.

METHODS: In this study, we reviewed the gallbladder pathology reports of 100 patients from 2005-2016 who underwent cholecystectomies for acalculous biliary dyskinesia at the University Medical Center in Lubbock, TX. We also documented the results of preoperative diagnostic tests, and general demographic information.

RESULTS: Patients had a mean age of 32 (9,85) and were predominantly female (81%) (Table 1). The majority of our patients reported as white or Hispanic (50% and 43% respectively). All patients had abnormal HIDA scan/Ejection fraction (EF<35%). The pathology reports were normal for 35% of patients, while 28% reported cholecystitis. 37% of patients also reported other pathology such as mucosal hyperplasia, cholesterosis, and sinuses/polyps. In females, the average age of cholecystitis affected individuals was younger than all other pathologies. Although not a large enough difference to be statistically significant, there could be a correlation between age and cholecystitis.

NormalCholecystitis Cholesterosis Mucosal Hyperplasia Sinuses and Polyps

Prevalence	35	28	19	14	4		
Female	28 (80%)		21 (75%)		18 (95%)	11 (79%)	3 (75%)
Average Age of Female	33		23	35	33	32	
Race White	20	11	6	10	3		
Race Hispanic	12	17	11	2	1		
Race AA	1	0	2	2	0		

CONCLUSION: The finding of other pathologies suggest that the preoperative diagnosis of biliary dyskinesia may not be the only cause of symptoms for patients and could be due to other pathologies of the gallbladder in two thirds of patients that may also be related to biliary dyskinesia. A majority of patients undergoing surgery for Biliary Dyskinesia show some pathologic abnormality, the relative significance of these findings need to be further explored.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #109

TRENDS IN LAPAROSCOPIC VERSUS OPEN COLORECTAL SURGERY OVER TIME BETWEEN 2005-2014 USING THE ACS-NSQIP DATABASE

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Presenter: Catherine Davis MD

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BACKGROUND: Laparoscopy was first adopted by general surgeons in the late 1980's. Since then, laparoscopy has been adopted in the surgical specialties and colorectal surgery (CRS) for treatment of benign and malignant disease. Formal laparoscopic training became a required component of surgery residency programs as validated by the Fundamentals of Laparoscopic Surgery (FLS) curriculum; however, some surgeons may be more apprehensive of widespread adoption of minimally invasive techniques.

OBJECTIVE: Although an overall increase in the use of laparoscopic techniques is anticipated over a ten-year period, it is unknown if a similar increase will be seen in higher risk or more acutely ill patients. Additionally, we aim to describe surgical outcomes in laparoscopic versus open CRS as minimally invasive technique is applied more broadly.

METHODS: Using the American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) database from 2005-2014, colorectal procedures were identified by CPT codes and categorized to open or laparoscopic (lap) surgery. The proportion of CRS performed laparoscopically was calculated for each year. Separate descriptive statistics were collected and categorized by age, BMI, ASA classification and emergency case status. Overall and yearly means and rates were then calculated for 16 outcomes measures.

RESULTS: A total of 277,376 colorectal cases were identified, 114,359 (41.2%) performed laparoscopically. The use of laparoscopy increased yearly, from 22.7% in 2005 to 41.2% in 2014. Lap procedures were most commonly performed in the youngest age group (18-49 years), overweight and obese patients (BMI 25-34.9), and in ASA Class 1-2 patients. Over the ten-year time period, there was a noted increase in the use of laparoscopy in every age, BMI, and ASA category, except ASA 5. The percent of emergency cases receiving lap surgery also doubled from 5.5% in 2005 to 11.5% in 2014. All 30-day outcomes in the lap versus open groups tended to favor laparoscopy with the exception of operating room time, shown in Table 1. Additionally, death and stroke tended to decrease over time in the lap cohort from 1.41% to 0.78% and 0.28% to 0.16%, respectively, while no change or increase was seen in the open cohort. Myocardial infarction tended to increase over time in the open cohort from 0.42% to 1.12%, but not in the lap cohort.

CONCLUSION: These data suggest that minimally invasive CRS appears to be widely adopted and is increasingly being performed on more complex or higher risk patients than in previous years. Outcomes at 30 days also appear to favor lap over open CRS, with select outcomes demonstrating improvement over time. Given the increase in lap CRS in more complex patients, improved quality in laparoscopy is suggested. However, it is possible that observed differences may be due to unequal characteristics of the two groups of patients. Further analysis is needed to evaluate improved proficiency in lap surgery.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #110

LOCALLY ADVANCED CARCINOSARCOMA OF THE PANCREAS: A BAYLOR EXPERIENCE

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Presenter: Sasha Still MD

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BACKGROUND: Carcinosarcoma (CS) is a rare subtype of pancreatic neoplasms comprised of both carcinomatous and sarcomatous components. Less than 30 cases of CS have been reported nationally, with even fewer accounts described in the literature. Given such rarity, definitive treatment guidelines have not been established.

OBJECTIVE: To report a case of pancreatic carcinosarcoma diagnosed in our institution, review tumor clinico-pathological characteristics, and describe our medical and surgical management strategy.

METHODS: We retrospectively reviewed a rare case of carcinosarcoma of the pancreas diagnosed and managed at our institution.

RESULTS: A 59-year-old female presented to our institution with acute pancreatitis. Diagnostic workup was notable for pancreatic mass and biopsy-proven adenocarcinoma. Staging workup was negative for metastasis. She was enrolled in a neoadjuvant trial receiving six cycles of modified FOLFIRINOX over three months then underwent definitive pancreaticoduodenectomy. Histologic examination demonstrated pancreatic carcinosarcoma. Surveillance imaging following the first cycle of adjuvant chemotherapy with Gemcitabine and Abraxane she developed widely metastatic disease. IR biopsy of a suspicious liver nodule revealed metastatic sarcoma. She expired 13 months after diagnosis.

CONCLUSION: To date, there has been no report of this rare tumor treated with both neoadjuvant and adjuvant chemotherapy. Carcinomatous necrosis with interval development of metastatic sarcoma suggests that systemic chemotherapy, especially cytotoxic agents targeted for carcinoma, may alter the balance of tumor elements and ultimately lead to a singular progression. Pancreatic CS is a rare tumor subtype associated with poor prognosis. Further investigation through continued reporting of individual cases is needed to determine appropriate medical and surgical management.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #111

SHARED DECISION-MAKING DURING SURGICAL CONSULTATION FOR GALLSTONES AT A SAFETY-NET HOSPITAL

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Presenter: Krislynn Mueck MD MPH

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BACKGROUND: Shared decision-making (SDM) promotes informed, patient-centered healthcare. However, little is known about vulnerable patients' perceptions regarding SDM during surgical evaluation and the accuracy of existing tools for measuring SDM.

OBJECTIVE: The purpose of this study was to evaluate whether a commonly used tool, the Shared Decision Making Questionnaire (SDMQ9), accurately reflects perceptions of SDM among medically underserved patients seeking surgical evaluation for gallstones at a safety-net hospital.

METHODS: An exploratory qualitative study was conducted in a sample of adult patients with gallstones at a safety-net surgery clinic between May-July 2016. Semi-structured interviews were conducted after initial surgical consultation. Patients were administered the SDMQ9 which has been validated in English and Spanish and Autonomy Preference Scale (APS). Interviews were analyzed using thematic content analysis and investigator triangulation was used to establish credibility. Interviews and questionnaires were determined to reflect SDM if all responses were equivalent to "strongly agree" or "completely agree". Univariate analyses were performed to identify factors associated with SDM and to compare the results of the surveys to those of the interviews.

RESULTS: The majority of patients (N=20) were female (85%), Hispanic (80%), Spanish speaking (70%), and middle-aged (46.8 ± 15 years). Most had a diagnosis of symptomatic cholelithiasis (55%), though 4 patients (20%) had non-biliary diagnoses. Initial non-operative management was chosen for 8 (40%) patients following surgical consultation. The proportion of patients who perceived SDM was significantly higher based on the SDMQ9 versus the interviews (85% vs 35%, $p < 0.01$). Age, sex, race/ethnicity, primary language, diagnosis, desire for autonomy based on the APS, and decision to pursue surgery were not associated with SDM. Analysis of component questions similarly demonstrated significantly higher perceived SDM based on the SDMQ9 in patient involvement in decision-making (90% vs 35%, $p < 0.01$), discussion of treatment options (85% vs 50%, $p = 0.02$), physician explanation of all information (90% vs 45%, $p = 0.04$), and joint weighing of treatment options (75% vs 20%, $p < 0.01$). Interview themes suggest that contributory factors to this discordance include patient unfamiliarity with the concept of SDM, deference to the surgeons' authority, lack of discussion about different treatment options, and confusion between aligned versus shared decisions.

CONCLUSION: Understanding patient perspectives regarding SDM is crucial to providing informed, patient-centered care. Discordance between two methods for assessing vulnerable patients' perceptions of SDM during surgical evaluation suggests that modifications to current measurement strategies may need to occur when assessing SDM in vulnerable patients. Furthermore, such metrics should be assessed for correlation with patient-centered outcomes.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #112

USE OF INDOCYANINE GREEN (ICG) ANGIOGRAPHY IN BLUNT TRAUMA: A NEW TECHNIQUE FOR INTRAOPERATIVE EVALUATION OF BOWEL PERFUSION AND VIABILITY

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Presenter: Carlos Martinez

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BACKGROUND: Intraoperative laser angiography using indocyanine green (ICG) is a vascular imaging method that can be used in the intraoperative or postoperative setting to visually assess blood flow. The SPY Elite Intraoperative Perfusion Assessment System (LifeCell Corp./Novadaq) is the most well-known system to utilize this technology. This provides real-time assessment of tissue perfusion that can be correlated with clinical outcomes, which can in-turn guide surgical decision-

making. This technique has been used for decades in ophthalmology, and in recent years been applied to the areas of Plastics, Cardiovascular, Bariatric and Colo-rectal Surgery.

OBJECTIVE: This technique has yet to be studied in trauma, more specifically blunt trauma with questionable bowel injury. Currently clinical judgment remains the most commonly used intraoperative method for determining surgical decision-making. However, based on this case, we believe ICG angiography could provide a more objective method for determining perfusion of bowel following blunt trauma

METHODS: Case Report:

A 45-year-old female was brought in as a restrained driver in a high speed MVC. She had episodes of hypotension which responded to fluid resuscitation. Her abdomen was diffusely tender to palpation with rebound tenderness and a positive seatbelt sign. FAST exam was positive for free fluid. The patient was taken for an emergent exploratory laparotomy

RESULTS: A liter of blood was evacuated. A large mesenteric hematoma was present with possible devascularization of the small bowel; however, it was difficult to assess due to the size of the hematoma. The SPY Elite system was used and detected a well-demarcated region of devascularization in a portion of the small bowel, measuring 60 cm. The devascularized section was resected and left in discontinuity for a second-look operation. During the second-look operation the bowel continued to appear viable. Continuity was reestablished and the incision was closed. The patient was discharged home on post-operative day 4 following an uneventful recovery.

CONCLUSION: ICG angiography provides real-time assessment of tissue perfusion that can be correlated with clinical outcomes, which can aide surgeons during surgical decision-making. Though this technique has yet to be studied in trauma, we believe ICG angiography could provide a more objective method for determining perfusion of bowel following blunt trauma, leading to fewer post-operative complications and shorter hospital lengths of stay.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #113

PANCREATIC ADENOCARCINOMA IN AN ADULT WITH CONGENITAL INTESTINAL MALROTATION AND DUODENAL ATRESIA

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Presenter: Yuichi Ishida MD

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BACKGROUND: Adenocarcinoma of the pancreas represents 85% of all malignant pancreatic neoplasms. It is the fourth leading cause of cancer-related deaths in the United States. Intestinal malrotation is caused by a failure of a 270-degree counterclockwise rotation of the midgut around the axis of the superior mesenteric artery (SMA). Duodenal atresia is believed to result from a failed recanalization of the gut tube during embryologic development. Duodenal atresia is estimated to occur in one in every 6,000-10,000 live births. Limited cases of pancreaticoduodenectomy with malrotation and duodenal atresia have been reported.

OBJECTIVE: We present a case of pancreatic adenocarcinoma in a patient with history of intestinal malrotation and duodenal atresia.

METHODS: A 40-year-old Hispanic female presented with fatigue, abdominal pain and jaundice. She has history of a Ladd procedure and gastrojejunostomy for intestinal malrotation and duodenal atresia during the neonatal period. An abdominal computed tomography was performed demonstrating a solid 3.3 cm x 3.0 cm periampullary pancreatic head mass. Percutaneous

transhepatic cholangiography and biliary drainage was performed. Endoscopic ultrasound and fine needle aspiration was consistent with adenocarcinoma.

RESULTS: Exploratory laparotomy identified a pancreatic head tumor involving the ampulla of Vater. A dilated loop of small bowel was identified parallel to the duodenum and was invaded by the tumor. This loop was consistent with the afferent limb of a Roux-en-Y gastrojejunostomy. No ligament of Treitz was identified and the jejunum was divided distal to the pancreatic head. The superior mesenteric artery coursed to the right of the superior mesenteric vein. Extra caution was taken during the dissection of the uncinate process of the pancreas from the superior mesenteric vessels. Pancreaticojejunostomy, hepaticojejunostomy, and gastrojejunostomy were performed in the standard fashion. The patient had unremarkable post-operative course and was discharged to home on post-operative day eight.

CONCLUSION: It is imperative to recognize the congenital anomaly and to identify the major anatomical anomalies preoperatively especially in patients with intestinal malrotation and anatomic reconstruction for duodenal atresia. The vascular anatomic relationships become more variable and dependent on the degree of malrotation. Inversion of the relationship between the superior mesenteric artery and vein is the most common variant found in over 60% of malrotation patients. Understanding variations in anatomic relationships before parenchymal division prevents critical arterial injury during the pancreatic head resection.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #114

CLOSED INCISION NEGATIVE PRESSURE THERAPY SHOULD BE CONSIDERED FOR OBESE PATIENTS UNDERGOING LAPAROTOMY FOR GYNECOLOGIC MALIGNANCIES

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BACKGROUND: In patients with major comorbidities undergoing complex gynecologic surgery, incision management is critical.

Morbid obesity is well known to be associated with greater risk of medical comorbidities and more evidence continues to increasingly associate obesity with poor surgical outcomes. Over the last two decades many studies have been done looking at quality improvement measures that can be instituted in a effort to decrease superficial and deep surgical site infections. Despite the implementation of these strategies, wound infections continue to be an ever-growing obstacle in morbidly obese patients. Negative pressure VAC therapy could be a preventative measure for obese patients with gynecologic malignancies undergoing laparotomy.

OBJECTIVE: This retrospective review examined factors associated with incisional complications within 30 days of surgery in patients with multiple comorbidities who underwent laparotomy by the members of the Division of Gynecologic Oncology at our institution

METHODS: The records of patients who underwent laparotomy for either complex benign gynecologic procedures or gynecologic malignancies from January 1, 2013 to July 1, 2016 were

reviewed. Data collected included demographics, comorbidities, procedures performed, and the presence of closed incision negative pressure therapy device. Descriptive statistics were computed for continuous variables, frequency, and percentages for categorical variables using Fishers Exact Test

RESULTS: Two hundred seventeen patients were identified who underwent laparotomy; one hundred forty-four had a gynecologic malignancy and 73 were benign. Of those patients, 42 had a negative pressure VAC system placed in the operating room after surgery. We identified all of the patients with postoperative wound complications, of which there were fourteen. Various risk factors, such as body mass index (BMI, kg/m²), age, smoking status, diabetes, coronary artery disease, hypertension, cancer, and blood transfusion were identified in relation to those patients that had surgical wound complication. The only risk factor that was significantly associated with wound complication was obesity (BMI > 30) (p = 0.02; OR 4.3; 95% CI 1.28-14.81). However, out of the fourteen patients that had wound infections, only three had a negative pressure VAC. The average BMI for patients with a negative pressure VAC that did not develop a wound complication was 37.6 ± 9.5, however it was 46.8 ± 11.6 (p < 0.0001) for the patients that did develop wound complication.

CONCLUSION: Patients that are obese have higher risk factors for postsurgical wound complications. Negative pressure VAC therapy could be a preventative measure for obese patients with gynecologic malignancies undergoing laparotomy. Our findings are limited by the low rate of wound complications. Further study is warranted to determine whether closed incision negative pressure therapy reduces the rate of wound complications in our patients.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #115

STICK A SPONGE IN IT: NOVEL MANAGEMENT OF GASTROINTESTINAL DEFECTS IN THE CHEST, ABDOMEN, AND PELVIS

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Presenter: Marissa Mencio MD

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BACKGROUND: Perforations and anastomotic leaks of the entire gastrointestinal tract are feared complications carrying high morbidity and mortality. Esophageal and rectal anastomotic leaks and perforations carry the highest mortality with risk of progression to sepsis and multi-organ system failure. Management of this continues to be a multidisciplinary challenge. The use of endoluminal vacuum (E-Vac) therapy has recently proved to be a useful technique to manage these complications. This is a report of our experience with this novel technique in the chest, abdomen, and pelvis.

OBJECTIVE: To show that E-Vac therapy is an effective treatment option for defects throughout the gastrointestinal tract.

METHODS: An IRB approved registry of all E-Vac patients from July 2013 to September 2016 was collected. A total of 54 patients were examined to find 48 patients eligible for the registry. 15 esophageal injuries, 20 gastric injuries, 3 small bowel injuries, and 10 colorectal injuries were managed with E-Vac therapy. E-Vac therapy includes serial use of a negative pressure vacuum dressing, called an endosponge, which is endoscopically placed within the lumen of the GI tract.

RESULTS: There were 15 patients with esophageal injuries that had 100% closure with E-Vac therapy. This was accomplished after a mean of 27 days of therapy with a mean of 6 endosponge changes every 4.5 days on average. The closure rate for the 20 patients with gastric injuries was 85%. The closure was in a mean of 57 days of E-Vac therapy and a mean of 11 endosponge changes

every 5.2 days on average. The 3 patients with small bowel injuries had 100% closure with E-Vac therapy. The closure took a mean of 13.7 days and mean of 2.7 endosponge changes every 4.4 days on average. The closure rate for the 10 patients with colorectal anastomotic leaks was 60%. The closure was in a mean of 23.2 days and a mean of 6 endosponge changes every 4.0 days on average.

CONCLUSION: Our experience with E-Vac therapy has demonstrated effectiveness throughout the GI tract, and endosponge use should be considered as a management option for leaks and perforations.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #116

PER ORAL ENDOSCOPIC MYOTOMY TO TREAT TYPE III ACHALASIA AFTER MULTIPLE PNEUMATIC DILATIONS

MA Farukhi MD, RW McCallum MD, MO Othman MD, BR Davis MD Presenter: Mohammad Farukhi MD

Presenter: Mohammad Farukhi, MD
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BACKGROUND: Patients with type III achalasia have a lower clinical response to endoscopic pneumatic dilation (PD), Botox injections and even to the standard of care, Laparoscopic Heller Myotomy (LHR). Since 2010, the Per Oral Endoscopic Myotomy (POEM), has emerged as a better substitute and less invasive alternative to the LHR for type III achalasia. However, it remains unclear whether previous endoscopic interventions would preclude a POEM procedure.

OBJECTIVE: The goal of our study is to investigate the feasibility and safety of POEM for treatment of type III achalasia after prior endoscopic intervention, specifically, multiple pneumatic dilation.

METHODS: This is a report of a 40 year-old male with an eight year history of achalasia. The patient had three through-the-scope dilations up to a diameter of 35mm during this time span with recurrence of symptoms. Imaging tests revealed a persisting type 3 achalasia. Given his recurrent disease and failed therapy, we elected to proceed with the POEM procedure. Under general anesthesia, endoscope was inserted to 12cm proximal to the GE junction. Saline injection and needle knife were used to open the mucosal tissue and the EGD cap was inserted through the submucosal space to create a tunnel extending into the stomach. Insulated tip knife was used to cut the circular muscle layers of the esophagus with no entry into the peritoneum or mediastinum. We did not encounter adhesions or scarring and we had minimal bleeding. The mucosal flap was closed with clips and scope was removed.

RESULTS: Our patient shows clinical improvement after POEM procedure and can now tolerate liquid and solid foods. Although prior PD interventions could have increased the risk of complications, we were able to successfully complete the POEM procedure.

CONCLUSION: POEM may be successfully completed in patients with previously failed endoscopic interventions. Delicate dissection and identification of landmarks can help minimize complications.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #117

EXCELLENT OUTCOMES AFTER LIVER TRANSPLANTATION FOR HEPATITIS B-RELATED COMPLICATIONS REGARDLESS OF VIREMIC STATUS, A SINGLE-CENTER ANALYSIS

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Presenter: Takashi Hirase MPH

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BACKGROUND: As a result of a successful US vaccination campaign over the last 3 decades, the incidence of hepatitis B (HBV)-related complications has declined significantly. Asian-Americans immigrating from endemic areas are at increased risk of untreated HBV, and consequently increased risk of liver disease and hepatocellular carcinoma (HCC) leading to the need for liver transplantation (LT). Because Asian LT recipients are known to have a 2-fold higher risk of HBV recurrence and decreased post-LT survival versus non-Asian recipients with HBV, active viremia has traditionally been a relative contraindication to LT. Many centers have therefore revised antiviral and monitoring regimens to aggressively treat viremia; however, in some instances, LT must be undertaken before HBV clearance can be achieved in order to prevent likely mortality in high-MELD or acutely decompensated HBV liver failure patients.

OBJECTIVE: We undertook a retrospective analysis of a small cohort of high-MELD Asian LT recipients with chronic or acute on chronic HBV to assess post-LT outcomes based upon viral replication status.

METHODS: Of 508 patients undergoing LT between April 2008 and December 2015, 14 (2.8%) self-reported as Asian and had HBV as the etiology of their liver disease. According to center protocol, 100% were receiving either single or dual nucleoside analogue treatment or prophylaxis against reactivation dosed according to renal function.

RESULTS: Five of 14 (36%) were HBsAg positive, with 4 of 5 (29%) with detectable HBV DNA titer (Range: 29 – 5.4x10⁷) at time of listing. Despite universal antiviral therapy, only 1 (20%) patient had a complete response pre-LT; 3 had persistently detectable HBV DNA titer at the time of transplant. (Range: 29 – 5.7x10⁴ IU/mL) Biological MELD at transplant ranged from 27 to 36 with a mean of 30. Median wait time was 257 days (Range 9 – 546 days). No patient met Status 1 criteria. All patients received our center's intraoperative and post-transplant hepatitis B immunoglobulin (HBIG) protocol. Median follow-up was 41 months with a range of 14 to 57 months. The 30-day, 1-year, and 3-year graft and patient survivals, regardless of viremia status, were 100% with no evidence of HBV recurrence in any patient (Table). This compares favorably with published reports of post-OLT HBV recurrence, documented as high as 9% at 5 years.

CONCLUSION: Our findings indicate that our cohort of Asian patients with chronic or acute on chronic HBV-related liver disease, including those who were HBsAg+ with detectable HBV viremia who were transplanted under our center's nucleoside analogue prophylaxis and/or treatment protocol demonstrate no graft or patient losses nor HBV recurrence at a median follow up of 41 months. Though a small cohort, these data demonstrate that there is the potential for transplant centers to devise pre and post-LT treatment and prophylaxis strategies which allow successful LT in patients with HBV-related liver complications, regardless of viral status.

POSTER SESSION 2 -- ABDOMEN/GI/LAPAROSCOPY

Poster #118

COMPARATIVE ANALYSIS OF MINIMALLY INVASIVE PLATFORMS FOR COLORECTAL SURGERY IN THE ELDERLY

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BACKGROUND: The safety and efficacy of minimally invasive surgery in the elderly has been demonstrated, but outcomes with each individual platform are yet to be explored. As we work to

further improve patient outcomes, comparative studies across platforms in this population is merited.

OBJECTIVE: Our goal was to evaluate perioperative and short-term outcomes across three common MIS platforms in elderly patients undergoing elective colorectal surgery.

METHODS: A prospectively maintained database was reviewed for elderly patients (≥ 65 years) undergoing elective colorectal MIS from 2010-2015. Patients were stratified by laparoscopic platform: hand-assisted (HALS), multiport (MPL), and single-port (SILS), then strictly matched for control. All followed a standardized enhanced recovery pathway (ERP). Main outcome measures were operative time, length of stay (LOS), total costs, and complication, readmission, and reoperation rates by platform.

RESULTS: 30 patients were compared in each cohort. Groups were well matched in demographics, diagnoses, and procedure performed. Mean operative time was significantly shorter ($p=0.044$) and conversion rates significantly lower with SILS ($p=0.013$). Intraoperative complications were similar across platforms ($p=0.129$). Platforms were oncologically comparable in malignant cases, per lymph nodes retrieved ($p=0.988$). Postoperatively, return of bowel function was significantly faster with SILS ($p=0.019$). SILS had significantly shorter LOS ($p=0.027$). Total costs were comparable across platforms ($p=0.083$). Complications ($p=0.236$), readmissions ($p=0.484$), and unplanned reoperations ($p=0.364$) were similar.

CONCLUSION: Each laparoscopic platform had excellent outcomes in conjunction with our ERP. Operative time, return of bowel function, and LOS were shorter with SILS, but all platforms had comparable costs, oncologic, and postoperative outcomes. This has implications for safely and effectively expanding MIS in the elderly using any tool per surgeon preference and patient characteristics.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #119

INVESTIGATING THE "GOLDEN HOUR" IN AIR TRANSPORTED TRAUMA VICTIMS - MAY NOT IMPACT MORTALITY

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Presenter: Hannah Pham

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BACKGROUND: The "Golden Hour" is one of the most fundamental tenets of trauma care, emphasizing the importance of providing definitive care to trauma patients immediately as possible or within an hour of the incident.

OBJECTIVE: We aim to assess the "Golden Hour" in a west Texas cohort by investigating the survival rates among our own trauma patient population transported by air to our Level 1 trauma center. We hypothesize that a longer total transport time, defined as the total time it takes to reach the scene and deliver the patient to definitive care, is associated with worse patient outcomes. We hypothesized that total transport time > 55 minutes was associated with increased mortality.

METHODS: A retrospective, single institution analysis was performed on patients transported by Helicopter Emergency Medical Services (HEMS). Inclusion criteria were air transported patients ages 18 and above admitted to our Level 1 Trauma Center from January 1, 2005 to January 1, 2015. Patients were excluded if they were transported by air from another hospital or died before reaching the emergency department (ED). Total transport time, injury severity score (ISS), and mortality were abstracted. Secondary outcomes include the possible association between injury

severity (ISS), traumatic brain injury (TBI), and mortality. Pearson's Chi-square test was used for analysis of categorical variables and ANOVA t-test for continuous variables.

RESULTS: A total of 377 patients were included. The mean air transport time, ISS score, GCS, and LOS were 1:40 minutes (SD 54), 14.3 (SD 11.8), 11.6 (SD 5.1), and 7.5 (SD 8.4), respectively. The mean age was 40.8 (SD 17.5) years. Death occurred in 24 (6.4%) patients. Out of 377 patients, only 68 (18%) arrived less than 55 minutes from scene of accident. There was no statistical significant association between mortality and transport time ($p=0.287p$). Patients with longer transport times had overall similar ISS scores, but tended to be younger by ten years ($p<0.0001$). There was a trend toward lower mortality in patients with shorter dispatch times and shorter on-scene times.

CONCLUSION: The results of this study demonstrate that there is no statistically significant difference in mortality between patients transported to the ED by air within an hour or greater than an hour. This finding may reflect the improvements made in Emergency Medical Services (EMS) care. Patients selected to go to a trauma center via air transport may be stable enough to travel via ground ambulance.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #120

MORE IS NOT BETTER: FAILURE OF A COMPREHENSIVE VTE PREVENTION ALGORITHM

AT Clark MD, CT Minshall MD, AJ Starr MD, JB Imran MD, TD Madni MD, SE Wolf MD, MW Cripps MD

Presenter: Audra Clark MD

UT Southwestern, Dallas, TX

BACKGROUND: Venous thromboembolism (VTE) remains a significant cause of increased morbidity and mortality in trauma patients, despite a focus on surveillance and prevention efforts. Challenges lie in identification of at-risk patients and determining optimal prevention strategies as every prophylaxis method carries some inherent risk. We initiated a novel, comprehensive algorithm in our SICU that utilizes multiple modalities of VTE screening including a validated PE risk assessment calculator, daily viscoelastic testing (ROTEM), ultrasounds, Anti-Xa levels to titrate chemoprophylaxis, and selective use of IVC filters to prevent VTE in high risk orthopedic trauma patients.

OBJECTIVE: We prospectively reviewed SICU adherence to the comprehensive VTE prevention algorithm to identify areas for improvement.

METHODS: Data (calculated PE relative risk, screening modalities, laboratory testing and chemoprophylaxis) for all trauma patients with orthopedic injuries admitted to the SICU at a large level 1 trauma center were prospectively collected for four months to determine compliance with the algorithm.

RESULTS: 47 trauma patients with orthopedic injuries were admitted to the SICU over four months while the algorithm was in place. The patients had a median increased relative risk for PE of 3.75 (IQR 1.48-6.02) based on the validated PE risk calculator. A daily ROTEM was prescribed in patients with a relative risk > 2 or with contraindication to chemoprophylaxis, however only 34.3% were performed (45/131). 3 patients were identified as hypercoagulable on ROTEM, but only 1 received the requisite Anti-Xa levels and screening ultrasounds. 10 patients (21%) had IVC filters placed according to faculty discretion, not according to algorithm criteria. Only 21% ($n=10$) of the patient evaluations were fully compliant with our algorithm. Obtaining daily ROTEMs, Anti-Xa levels, and ultrasounds complicated care. We simplified the decision-tree and a new VTE prevention algorithm (Figure 1) has been instituted.

CONCLUSION: A VTE prevention algorithm that incorporates all modalities of screening and a graded prevention method is appealing, but maintaining compliance is difficult due to complexity and physician attitudes. We simplified our protocol focusing on early lovenox administration or filter placement, and are prospectively reviewing its implementation and efficacy in preventing VTE in our orthopedic trauma patients.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #121

IMPLEMENTATION OF PATIENT AND FAMILY SUPPORT SERVICES IN A TRAUMA/INTENSIVE CARE SETTING

S Agtarap MS, K Roden-Foreman BA, EE Rainey MS CCRC, M Kolessar PhD; ML Foreman MD, M Powers PhD, AM Warren PhD

Presenter: Stephanie Agtarap MS

Baylor University Medical Center, Dallas, TX

BACKGROUND: There is a growing emphasis on providing supportive services to patients and their loved ones while admitted into an intensive care unit. In recent years, clinical practice guidelines have been developed that encourage a support infrastructure for patients and families within ICU's (Department of Health, 2000; Davidson et al., 2007). Particularly, integrated trauma psychological services have shown extensive benefits, including support for medical staff as well as comfort for- and adherence from- patients and their loved ones (Peskest & Gibb, 2009).

OBJECTIVE: Our primary aim was to successfully implement support services for patients and their loved ones in the trauma/surgical intensive care unit (ICU) of an urban Level I trauma center in the Southwestern United States.

METHODS: To support the 2,400 trauma patients admitted annually, key strategies were implemented over the course of 4 years, including but not limited to: (i) educational resources and support services, (ii) collaboration with existing support services, and (iii) hosting an annual trauma survivors' reunion.

RESULTS: Efforts included tangible resources such as a support handbook given to each family upon admission to the ICU, spinal cord, traumatic brain injury and amputee resources, and weekly support group meetings hosted by inpatient trauma/rehabilitation psychologists to family members in the ICU. Collaboration with social work, pastoral care, community resources, and animal assisted therapy was crucial to increasing the awareness of and desire for support services. These efforts culminated in the creation of an annual trauma survivor's reunion, which allows patients and families to reconnect with medical staff and former patients, in the hopes of forming an extended support network outside of the hospital.

CONCLUSION: Important lessons learned were the need for embedded staff (e.g., inpatient psychologists, trauma staff), consistency of the support services offered, and demonstrating its need and benefits through tangible output such as annual events, animal assisted therapy services, injury-specific resources, media coverage, and feedback to improve patient and family member satisfaction.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #122

DRIVER SEE, DRIVER CRASH: NASCAR VIEWERSHIP RATINGS ARE ASSOCIATED WITH NATIONAL INCREASES IN MOTOR VEHICLE COLLISIONS WITH AND WITHOUT INJURY

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*Presenter: Jacob Roden-Foreman BA
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BACKGROUND: In 2013, motor vehicle collisions (MVCs) injured nearly 3.9 million people and killed more than 35,000 in the U.S.. Much research has been done on road rage, but few studies have examined other psychosocial factors that may contribute to the number of MVCs. Televised media can substantially affect behaviors that are measurable on an epidemiologic level. Homicide rates spike following televised boxing matches with the increases primarily occurring in victims whose demographics match those of the defeated boxers. Widely publicized suicides have been linked to increases in fatal single-vehicle-single-occupant MVCs; likewise for murder-suicides and multiple-passenger-single-vehicle crashes. Interestingly, one study found a significant increase in MVCs in West Virginia following televised NASCAR races. That study, however, did not account for the number of people who watched the race and did not examine national data.

OBJECTIVE: This study examined whether NASCAR viewership ratings were associated with increases in the incidence of MVCs overall and of MVCs with injury in the U.S..

METHODS: MVC data for the years 2004 - 2013 were obtained from the National Highway Traffic Safety Administration (46,865,155 MVCs). Viewership ratings of NASCAR's most popular division were abstracted from the website of an ESPN subsidiary (390 races). MVC data were summarized into monthly totals, and ratings into means for the 100 months with NASCAR races.

RESULTS: Multiple linear regressions were performed controlling for month, year, drug and alcohol intoxication, road surface conditions, and lighting conditions. These revealed that monthly NASCAR ratings were associated with significant national increases in total MVCs per month (standardized beta coefficient (β) = 0.641, $p < 0.001$); the unstandardized beta coefficient indicated that a 1% increase in the number of U.S. households watching these NASCAR races in a month was associated with a national increase of 24,500 MVCs per month, or approximately one MVC for every 120 (95% CI = 85 - 203) viewers. For MVCs with injury, there was a weaker association (β = 0.279, $p < 0.001$); a 1% increase monthly NASCAR ratings was associated with 3,752 additional MVCs with injury per month, or approximately one MVC with injury for every 811 (95% CI = 504 - 2,082) viewers.

CONCLUSION: While the study lacks fine granularity due to its use of monthly totals and averages, it suggests that televised NASCAR races may be associated with substantial increases in the incidence of MVCs with and without injury, especially when viewed in light of similar research on the topic. Specifically, a 1% increase in the number of U.S. households watching these NASCAR races in a month might be associated with 24,500 more MVCs and 3,752 more MVCs with injury nationally that month. While unlikely to stop NASCAR viewers from watching the races, simply making drivers aware of psychological factors that may increase their risky driving behaviors may result in safer driving.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #123

RIB FRACTURES AND MORTALITY: BREAKING THE CAUSAL RELATIONSHIP

S Radpour MA, K Luftman MD, CVR Brown MD

Presenter: Sepeadeh Radpour MA

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BACKGROUND: Rib fractures have long been considered to be a major contributor to mortality in the blunt trauma patient. Previous studies have shown that the number of rib fractures can be a reliable predictor in patient outcomes in the trauma setting. What has not been determined is

whether or not rib fractures contribute to the actual cause of death. We hypothesized that while rib fractures can be an excellent predictor of mortality, they rarely contribute to the cause of death.

OBJECTIVE: To determine the cause of death in blunt trauma patients who sustain rib fractures.

METHODS: Retrospective study (2008-2015) of blunt trauma patients admitted to our urban, level 1 trauma center who sustained one or more rib fractures. Patients who died had their medical records (including trauma peer review summary) reviewed in detail to determine the cause of death. Cause of death was broken down into seven categories (neurological, cardiac, hemorrhage, respiratory, infection, dead on arrival, and other). Deaths were classified as being caused by rib fractures in any of the following cases: any respiratory death, death secondary to pneumonia, death secondary to hemorrhage from rib fractures.

RESULTS: There were 4,413 blunt trauma patients sustained one or more rib fractures, 295 (6.8%) of them died. Patients with rib fractures who died were an average of 51 years old, 71% male, 70% Caucasian, had a mean admission GCS = 7, systolic blood pressure = 110 mm Hg, pulse = 98 beats per minute, and respiratory rate = 13 breaths per minute. The rib fracture population who died was severely injured with a mean ISS = 38 and Chest AIS = 3.4. However, rib fractures were the cause of death in only 21 patients (7% of deaths and 0.5% of the entire rib fracture population). The cause of death of all patients who died as a result of their rib fractures was respiratory failure. The other 200 rib fracture patients who died, died as a result of something other than rib fractures. Cause of death included neurological (29%), dead on arrival (25%), cardiac (19%), hemorrhage (15%), infection (1%), and other (3%). After excluding patients who were dead on arrival, patients who died as a result of their rib fractures were older (73 years old vs. 48 years old, $p < 0.0001$) and had a higher admission respiratory rate (19 vs. 12, $p = 0.02$), but were more stable at presentation with a higher admission GCS (11 vs. 6, $p < 0.001$), higher systolic blood pressure (123 mm Hg vs. 103 mm Hg, $p = 0.02$), and were less severely injured [ISS: 28 vs. 39, $p = 0.0003$]. However, there was no difference in admission Chest AIS (3.3 vs. 3.4, $p = 0.70$). Multivariable logistic regression found the age ≥ 65 was the only variable independently associated with mortality directly related to rib fractures [Odds Ratio = 4.1 (95% CI: 1.3-13.3)].

CONCLUSION: Mortality in patients with rib fractures is uncommon (6.8%) and mortality directly related to rib fractures is rare (0.5%). Patients who die directly from rib fractures die s respiratory death. Older age is independently associated with dying as a direct result of rib fractures and older patients are four times more likely to die as a direct result of rib fractures. Older patients may require additional resources to avoid mortality directly related to rib fractures.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #124

WE DON'T NEED FULL ACTIVATION: GUNSHOT WOUNDS ISOLATED TO THE EXTREMITIES DO NOT REQUIRE FULL TRAUMA TEAM ACTIVATIONS AS MANDATED BY THE AMERICAN COLLEGE OF SURGEONS

P Edmundson MD, JW Roden-Foreman BA, ML Foreman MD

Presenter: Philip Edmundson MD

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BACKGROUND: Since 2015, the American College of Surgeons Committee on Trauma (ACS-COT) has required full trauma team activations (TTAs) for patients with gunshot wounds (GSWs) at or proximal to the elbow or knee. The apparent rationale is that GSWs to these regions pose a greater risk of vascular injury and are more difficult to tourniquet; as such, these patients should be trauma activated out of caution.

OBJECTIVE: Anecdotal experience at our Level I center suggested that full TTAs were largely unwarranted for patients with GSWs isolated to the extremities and that other indications typically were present for patients who needed a full TTA. This study tested that perception in a national cohort of GSW patients.

METHODS: Using data for admission years 2013 and 2014 in the National Trauma Data Bank (n=1,690,080), external cause of injury codes were used to identify patients with GSWs (n=69,065). ICD9 diagnosis codes were used to identify patients with injuries at or proximal to the elbow or knee and without other injury to the head, neck, or torso. This group was considered to have isolated extremity GSWs. Patients with GSWs below the knee/elbow who did not have injuries to other regions (n=14,954) were excluded. The isolated extremity GSW group was compared to the remaining GSW patients.

RESULTS: Of the remaining 54,111 GSW patients, 6,342 (11.7%) had isolated extremity GSWs. A binary logistic regression that adjusted for ACS level showed that patients with GSWs isolated to the extremities had longer hospital lengths of stay (LOSs) but shorter ICU LOSs, had lower systolic pressure, pulse rate, and Injury Severity Score (ISS), had a higher Glasgow Coma Scale (GCS) score, and were less likely to die. Of the patients with GSWs isolated to their extremities, there were 73 deaths (1.2%) vs. 10,505 (22.0%) in other GSWs. Of the 73 mortalities with isolated GSWs, 47 (64.4%) met at least one other ACS-COT minimum activation criterion. Of the remaining 26 patients, 8 had vascular injuries, but none received packed red blood cells within four hours of arrival to the hospital, which would be indicative of acute hemorrhage.

CONCLUSION: The relative scarcity of cases, negligible mortality rate, and apparently low injury burden observed amongst isolated extremity GSWs in this two-year national cohort study do not support ACS-COT's mandate to activate such patients, and suggests that those who likely needed a full TTA tended to be eligible under other minimum activation criteria. The ACS-COT may wish to re-assess this mandate given its apparent inefficiency and likely contribution to wasted resources and increased costs, which are omnipresent concerns for the healthcare industry.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #125

DON'T CALL ME CRAZY! DELIRIUM OCCURS OUTSIDE OF THE ICU.

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Presenter: Anthony Cahill, MD

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BACKGROUND: Delirium has been well studied among critically ill populations in the ICU; however, data available for delirium beyond the ICU is limited.

OBJECTIVE: The purpose of this study is to evaluate the incidence and associated risk factors for delirium in the ward.

METHODS: After IRB approval, a prospective cohort study was conducted at our urban Level 1 Trauma Center. All patients admitted to the ward by a trauma surgeon were included. The Confusion Assessment Method (CAM) was administered every 12 hours until discharge. Those who screened positive for delirium (CAM+) were administered the CAM-S to quantify the severity of delirium. Demographics, laboratory data, and inpatient medication lists were collected. Fisher exact test was employed to determine statistical significance between groups.

RESULTS: Of the 148 participants, 12 (8%) were CAM+ and 136 (92%) were non-delirious (CAM-). Average severity score of CAM+ patients was 14 ± 2 , on a scale from 0 to 19. Average age of all patients was 52 ± 20 years old and 45% were male. Of patients ≥ 65 years old, 9 (20%) were CAM+.

Our analysis of 120,049 data points revealed that CAM+ patients were statistically more likely to be on the following medications: Albuterol (0.01), Atorvastatin (0.01), Duloxetine (0.04), Sertraline (0.04), Folic Acid (0.01), Thiamine (0.01), Vitamin D (<0.001), Haloperidol (0.04), Metoprolol (0.02), and Vancomycin (0.02). Abnormal lab values associated with delirium included: Albumin (0.03, OR 7.9, CI 0.996-63.203), Calcium (0.011, OR 5.0, CI 1.465-16.707), Sodium (0.04, OR 3.9, CI 1.134-13.494), and Hematocrit (0.04, OR N/A).

CONCLUSION: To our knowledge, this is the first study to evaluate the incidence of delirium on the ward. Our study found an overall 8% incidence of delirium. This increased to 20% in patients \geq 65 years old. Many of the risk factors identified in our study of ward patients are consistent with those reported in the ICU. In contrast to the ICU, our CAM+ patients had lower albumin, lower hematocrit, and were more likely to be on vancomycin, vitamin D and folate. Given the results of our study, screening of ward patients with these risk factors should be considered.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #126

RETROSPECTIVE STUDY EXAMINING THE ETIOLOGY OF GUNSHOT WOUNDS AND STAB WOUNDS IN LUBBOCK, TEXAS

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Presenter: David Michaels

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BACKGROUND: More than 32,000 persons die and over 67,000 persons are injured by firearms each year. This equates to an annual age-adjusted rate of 10.2 per 100,000. Of these, 62% were suicides, 35% were homicides, and 2% were unintentional firearm deaths. Over the past 5 years, Lubbock has seen a sharp increase in gunshot wound (GSW) patients, while the number of stab wound (SW) patients has stayed relatively constant.

OBJECTIVE: The purpose of this study is to compare GSW and SW penetrating trauma cases in hopes of discovering an underlying explanation for the growing discrepancy in presentation frequency.

METHODS: Lubbock's University Medical Center (UMC) Trauma Center patient registry was used to obtain a list of GSW and SW patients between the ages 0-89 years admitted between January 1, 2010 and March 31, 2016. The patients' electronic healthcare records were examined to compare demographic information (race, age, gender) along with etiology (i.e. assault, self-inflicted and accident) and other variables (length of stay, BAC, ISS, mortality).

RESULTS: 689 patients were examined that presented with a GSW or SW. 588 (85.3%) were male, 101 (14.7%) were female. Of these, 471 (68.4%) presented with a GSW, 201 (29.2%) presented with a SW and 17 (2.5%) presented with a BB gun injury. Of the 431 GSWs, 257 (59.6%) were assaults, 118 (27.4%) were accidents and 56 (13.0%) were self-inflicted. The total number of GSWs increased by 143.8% between 2010 and 2015. Of the 195 SWs, 152 (78.0%) were assaults, 17 (8.7%) were accidents and 26 (13.3%) were self-inflicted. The total number of SWs increased by 22.2% between 2010 and 2015.

CONCLUSION: While the incidence of SWs has stayed relatively constant over the past 5 years, the number of GSWs has increased drastically. The number of GSWs increased by an average of 22.0% per year between 2010 and 2015 while the number of SWs increased by an average of 6.0% per year. While we were unable to determine a single underlying cause of the rapid increase in GSW presentations over this time period, it should be noted that the increase can be attributed almost

entirely to increased rates of assault and accidents, while self-inflicted incidents remained largely unchanged.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #127

VARIATION OF SYMPTOMS ENDORSEMENT IN SUBSCALE DSM-5 PTSD CLUSTERS IN OUTPATIENT TRAUMA CLINIC

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Presenter: So-Youn Park

UT Southwestern Medical Center, Dallas, TX

BACKGROUND: Posttraumatic stress disorder (PTSD) is a mental health condition that develops after an individual is exposed to traumatic events. According to the U.S. Department of Veterans Affairs, the estimated lifetime prevalence of PTSD among American adults is 6.8%. Individuals diagnosed with PTSD may experience significant distress and functional impairments; however, there are multiple effective treatment options available.

OBJECTIVE: To evaluate the subscale severity scores in each of the four DSM-5 PTSD symptom clusters in the outpatient clinic of an urban, level one trauma center. A further understanding of subtypes of PTSD may assist in improved treatment that can target specific symptom clusters.

METHODS: This prospective pilot study consisted of consecutive patients seen in the outpatient clinic from July 2015 to January 2016. We evaluated the frequency of meeting diagnostic criteria for each of the four DSM-5 PTSD symptoms with the PCL-5 survey. The 20 item self-report questionnaire is further subdivided into four symptoms clusters: intrusions (cluster B), avoidance (C), negative alterations in cognitions and mood (D), and alterations in arousal and reactivity (E). To be considered provisionally diagnosed with PTSD, a severity score of at least 2 ("moderate") for 1 B item (questions 1-5), 1 C item (questions 6-7), 2 D items (questions 8-14) and 2 E items (questions 15-20) is required.

RESULTS: We evaluated 100 consecutive subjects in the outpatient trauma clinic. 33 (33%) met the cluster B diagnostic criteria for PTSD, 23 (23%) met the cluster C diagnostic criteria, 19 (19%) in cluster D, and 26 (26%) in cluster E. The clusters were evaluated independently regardless of patient provisional PTSD diagnosis.

CONCLUSION: Patients in our outpatient trauma clinic endorsed more symptoms from cluster B (intrusions) and cluster E (alterations in arousal and reactivity) than clusters C (avoidance) and D (negative alterations in cognitions and mood). Evaluating subscale scores may help identify areas that can be targeted, improving intervention and enhancing prevention for patients at high risk for PTSD.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #128

NEEDLE BREAK: COMPLICATION AND MANAGEMENT OF INTRA-OSSEOUS VASCULAR ACCESS

R Conkin MBA, Katie Dowd BSc, A Santos MD

Presenter: Rachel Conkin MBA,MB

Texas Tech Health Science Center in Amarillo, Amarillo, TX

BACKGROUND: Obtaining vascular access is essential in the resuscitation process of trauma and critically ill patients. ATLS emphasized the use of two large bore peripheral IVs in trauma resuscitation. However, this can often be challenging due to patient's anatomy, poor IV access,

extremity injuries, unfavorable settings, and in cases of mass casualties. The International Liaison Committee on Resuscitation, ACLS, and ATLS all recommend intraosseous access for infusions of crystalloids, blood products, and most emergency medications until alternate venous access is achieved.

OBJECTIVE: We report a case of a trauma patient who benefitted from intraosseous access but had complications due to breakage of the needle at the hub.

METHODS: A 19 year old male, helmeted motorcyclist sustained multiple injuries after a collision. He was found to be hypotensive and was intubated at the scene. After unsuccessful attempts for intravenous line placement, he required intraosseous catheter placement on his left proximal tibia using a 25 mm cannula EZ-IO®. The patient was brought to our institution as a Level 1 Trauma activation. A central venous catheter was placed, and he was resuscitated and stabilized. His injuries included: cerebral concussion, left maxillary fracture, pulmonary contusion, bilateral upper extremity lacerations, and right femoral, tibial, and fibular fractures. He underwent ORIF of his right femur and tibia.

RESULTS: Upon patient stabilization, IO access was removed, but the needle broke at the hub. The retained needle was no longer exposed above the skin. Bedside removal using Hemostat forceps under local anesthesia was attempted unsuccessfully. The patient complained of pain at the site so we opted for wound exploration and intraoperative removal of the retained IO needle. Lateral x-ray of the left tibia was obtained, which showed the 1.7 cm needle embedded into the anterior aspect of the proximal tibia with smaller radio-opaque in the subcutaneous tissue. It is to be noted that there was less than 1 mm portion of the needle above the bone, and the use of hemostats, sternal needle holder and wire twister proved to be futile. Under fluoroscopic guidance, we used a Stryker® Crown drill bit to remove the retained foreign body by coring it out of the bone. Fluoroscopy was utilized to ensure all retained foreign bodies were removed. A bone graft substitute was placed into the defect and the surgical site was closed in layered fashion. The patient healed well and was discharged three days later.

CONCLUSION: With an increase usage, we are seeing more possible complications, including needle breakage. Retained IO needles are usually removed manually using a forceps, needle driver, or wire twister. In this case, where the IO needle broke so closely to the hub with less than one millimeter of the needle exposed, using a crown drill bit is a novel way of removing a retained foreign body. This case report will make the clinician aware of this possible complication and its management.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #129

EXPLORATORY ANALYSIS OF DISCLOSURE TRENDS AMONG VICTIMS OF INTIMATE PARTNER VIOLENCE

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Presenter: Jessica George PhD

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BACKGROUND: An Intimate Partner Violence (IPV) Program has been progressively developing due to strong support from an accredited Level 1 Trauma Center in a tertiary care public safety net health system. In 2012, the organization implemented innovative policies for universal screening for IPV across the health system. Every patient who seeks healthcare across all portals of entry is asked the question: "Does anyone at home hurt, hit, or threaten you?" Patients' responses to this universal IPV screening question are captured in an electronic health record (EHR) across all inpatient and outpatient sites. For those who disclose IPV, the organization's Victim Intervention Program (VIP) /Rape Crisis Center provides 24/7 crisis response. Not only has use of this universal

IPV screening question improved access to care for more IPV victims, but the electronic archiving of patients' responses has also provided opportunities to explore patterns in victims' disclosure.

OBJECTIVE: The purpose of this analysis was to identify patterns in disclosure among patients seeking healthcare using an episodic convenience sample of patients' responses to a universal IPV screening question extracted from an EHR.

METHODS: Positive patient responses (disclosures) to a universal IPV screening question were extracted from the EHR for all inpatient and outpatient encounters during July 2016. Patients' responses to previous screenings at all entry portals across the health system were also examined, including screens occurring within the same admission and/or recent admissions. Data analysis was conducted using descriptive statistical analysis to identify patterns in disclosure.

RESULTS: In July 2016, 127 patients screened positive for IPV in response to the organization's use of a universal IPV screening question across inpatient and outpatient areas. Initial results of this analysis include.

- 52% of positive IPV patient screens occurred in the Emergency Department
- 48% of positive IPV patient screens occurred in both outpatient and inpatient areas
- 77% of positive IPV patients had previously negative screens (denial/endorsement screening pairs)
- 22% of patients with positive IPV screens did not have previous negative screens
- 80% of patients with denial/endorsement screening pairs had their previous negative screen within the same year (2016) with 34% of those patients having their previous negative screen within the same month
- 63% of those patients with denial/endorsement screening pairs were female while 37% were male

CONCLUSION: Initial findings from this exploratory study demonstrate that patient responses to a universal IPV screening question may vary on a temporal basis across each episode of care, even within a short timeframe. While these findings may suggest ambivalence experienced by IPV victims in deciding upon disclosure, further examination of this data may also provide insight into victims' reasons for seeking healthcare as they navigate a personal journey of deciding to disclose and seek care for IPV. Further study may also reveal variance across healthcare disciplines in application of the universal IPV screening question possibly influencing patients' inconsistencies in responses. Initial results of this study have provided insight into IPV victims' disclosure patterns and have inspired momentum for further investigation to identify patterns of both IPV disclosure and occurrence with the ultimate goal of improving care for IPV victims.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #130

SEVERE NECROTIZING SOFT TISSUE INFECTION IN THE SETTING OF EXTRAPERITONEAL BLADDER INJURY

C Martinez BS, Ariel Santos, MD

Presenter: Carlos Martinez BS

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BACKGROUND: Extraperitoneal bladder injury can be managed conservatively with indwelling Foley catheter, empiric antibiotics, analgesics and follow up cystogram in 7 to 10 days depending on its severity prior to Foley removal. Most cases occur during trauma.

OBJECTIVE: The purpose of this study is to delineate the management of extraperitoneal bladder injury in a setting of severe necrotizing soft tissue infection.

METHODS: Case report :

This is a case of an 83 year old lady with past medical history of diabetes mellitus, hypertension and hypothyroidism who developed cystitis with indwelling catheter. Foley catheter was replaced at a nursing home and patient eventually developed severe abdominal pain. She was referred to our institution and was admitted to the Internal Medicine service and referred to urology. She is treated with indwelling foley catheter, broad spectrum antibiotics. After 4 days, the patient developed cellulitis and was referred to the Surgery service. A CT cystogram was requested which showed extraperitoneal bladder injury with extensive soft tissue edema and concern for necrotizing soft tissue infection. A decision was made to go to the OR for wound exploration and noted to have severe necrotizing soft tissue infection of the lower abdominal wall extending to the mons pubis. Patient was admitted to the surgical ICU post operatively. Re-exploration of the wound three days after the first operation revealed infection of the fascia requiring excisional debridement which exposed the 7 cm extraperitoneal bladder rupture. This was repaired in layered fashion. Five days after, the patient underwent re-debridement and eventual VAC dressing.

RESULTS: Wound cultures grew Bacteroides, Pseudomonas and Enterococcus faecium. The patient was kept on broad spectrum antibiotics for 10 days. She was discharged to a rehabilitation facility 13 days after the original operation.

CONCLUSION: Current treatment guidelines suggest that extraperitoneal bladder rupture is to be managed non operatively with indwelling Foley catheter and antibiotics. However, concomitant necrotizing soft tissue infection may warrant surgical repair. Also, admission to the surgery service may facilitate early work up and treatment.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE**Poster #131****MODELING THE NEED FOR FIRST RESPONDERS IN RURAL UNITED STATES**

GE Sorensen Ph.D, M Aranke, M Bhatia, D Vyas MD

Presenter: Grant Sorensen PhD

Texas Tech University Health Sciences Center School of Medicine, Lubbock, TX

BACKGROUND: Surgical intervention, especially trauma surgery, has gained traction in the public health community. Factors such as surgeon density and first responder density are starting to gain consideration in medical and scientific research. Similar work has yet to be completed in regards to pre-hospital care that the trauma victim receives by way of first responders. Multiple studies have shown that prompt, well-executed pre-hospital care by first responders can lead to a reduction in motor vehicle mortality, in both urban and rural settings. Even though the importance of first responders is widely agreed upon by the healthcare and public health community, no mathematical model currently exists that gives a reliable estimate of the number of first responders a certain community needs to provide improved pre-hospital care.

OBJECTIVE: The objectives of our study were to quantify the relationship between first responder density and state census data, and to develop a model that will effectively estimate the number of responders needed to reduce motor vehicle accident mortality rate.

METHODS: Data was collected from state census databanks for all 50 states. Comparisons in first responder density among the states were made across 10 variables that include: population density, drivers less than 25 years old, drivers greater than 75 years old, number of surgeons, surgeon density, total number of first responders (firemen and EMTs), total state area (sq. km), number of total hospitals, hospital density (km), and motor vehicle accident mortality rate. Initial relationships among the variables was determined using a Pearson Correlation Coefficient. Variables that had a significant correlation to first responder density were then used in a multiple regression analysis to develop a model which estimates the linear relationships to first responder

density. Cross validation method was then used to estimate the effectiveness of the model to predict first responder density.

RESULTS: Our study has developed a multivariate regression model to predict the appropriate first responder density given a set of state or county level census data. These models can be used to set a target level for motor vehicle mortality rate and estimate an appropriate first responder density needed for that area. First responder density was significantly correlated ($P < 0.05$) to motor vehicle death density, number of surgeons, surgeon density, hospital density. Most notably, there was an inverse relationship between first responder density and motor vehicle mortality density. Thus, as first responder density increased, the number of deaths from motor vehicle accidents decreased.

CONCLUSION: In both urban and rural areas, it has been shown that sufficient first responder density in addition to well-executed pre-hospital care will lead to a significant reduction in motor vehicle mortality. Further efforts could elucidate these factors and lead to better allocation of public health resources and reduction in MVA mortality.

POSTER SESSION 3 -- TRAUMA AND CRITICAL CARE

Poster #132

EPIDEMIOLOGICAL DIFFERENCES OF YOUNG VS ELDERLY AFTER TRAUMATIC SPINAL CORD INJURY

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Presenter: Timothy Choi BA

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BACKGROUND: Approximately 12,500 spinal cord injuries (SCI) occur annually in the USA, and in 2014, 276,000 people with SCI were living in the US. These numbers will likely increase due to the growing proportion of active elderly, who have an increased rate of falls (sensory loss, muscular weakness and dementia) and increased susceptibility to fractures and SCI (osteoporosis, osteopenia, and degenerative cervical stenosis).

OBJECTIVE: There is significant debate in current literature over the necessity of spinal immobilization and imaging of the elderly after low level mechanisms of injury. We aim to denote differences in the location and type of SCI between the elderly and young adults with blunt mechanism. We hypothesize that the elderly will have a higher incidence and risk of cervical SCI despite low force mechanism injuries.

METHODS: Memorial Hermann Hospital Trauma database was queried for adult patients (> 15 years) with blunt mechanism spinal cord injury from 1/1/2011 - 12/31/2015. SCI was defined by AIS to include complete and incomplete cord injury, cord contusion, and ligamentous spinal injuries.

Elderly was defined as > 55 years. Mortality, length of stay (LOS), and ICU days, analyzed with Chi square analysis, Fisher's exact test, and Kruskal-Wallis to determine statistical significance.

RESULTS: Over 5 years, 23,410 adult trauma patients were admitted to MHH, of which 961 had SCI. 36% were Elderly, and 73% Male. Mortality following SCI was 9.4% (13% Elderly, 7% Young). 69% of SCI was cervical (n=664), 21% thoracic (n=205), and 10% lumbar (n=92). 7.5% overall had multiple levels of SCI. Significantly more cervical SCI in both age groups (65% Young, 76% Elderly) than Thoracic or Lumbar. Median LOS and ICU days were not significantly different. The median LOS was 9 days in the Elderly vs 8 for Young. Median days in the ICU days was 3 for Elderly and 2 for Young. Falls led to 44% of Elderly cervical SCI and 16% of the Young ($p < 0.001$). Thoracic and Lumbar SCI were more common after MVCs in both groups, but were not significant.

CONCLUSION: Cervical spine is the most common location of SCI for both age groups. There was no significant difference in LOS or ICU days between the young or elderly. However the elderly were more than twice as likely to incur a cervical SCI after a fall.

These data have clinical use in determining the need for field cervical stabilization and imaging in elderly patients after falls. Further studies will evaluate SCI level and correlation with additional injuries and overall ISS.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #133

THE VALIDITY OF HOURLY NEUROLOGIC ASSESSMENTS IN THE INTENSIVE CARE UNIT FOR PATIENTS WITH TRAUMATIC BRAIN INJURY.

Bedros N, Geoffrion TR, Kabangu JL, Aoun SG, Provenzale N, Barker, S, Minshall CT, Williams BH

Presenter: Nicole Bedros MD

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BACKGROUND: Traumatic brain injury (TBI) is a leading cause of disability and mortality worldwide. The standard of care at many trauma centers is to admit patients with TBI to the Intensive Care Unit (ICU) for hourly neurologic assessments. There is a proven discrepancy between documented GCS (Glasgow Coma Scale score) and the presence of significant organic intracranial injuries and their clinical impact. Additionally, an unnecessary ICU stay incurs significant financial costs and resource utilization, and may adversely affect patient outcomes. There is no consensus regarding the optimal duration or frequency of hourly neurologic assessments.

OBJECTIVE: We aimed to determine the utility of and need for hourly neurologic assessments in patients with traumatic brain injury admitted to the intensive care unit.

METHODS: As a feasibility study we retrospectively reviewed data from the trauma registry at our urban, level I trauma center over a 2-month period. Data points included head injury type, admission GCS, lowest GCS within 24 hours of admission, lowest GCS during hospitalization, ICU length of stay, total length of stay; and unplanned surgical, medical, or diagnostic intervention prompted by a decline in GCS.

RESULTS: Twenty-two patients were admitted to the ICU based on the radiographic and clinical diagnoses of traumatic brain injury. Eighty-two percent of patients did not experience a decline in GCS within the first 24 hours of admission. Among these, 17% experienced a decline after 24 hours for non-neurological reasons. Of the remaining 18% that did experience a decline within 24 hours, none prompted an unplanned intervention in their previously management plan.

CONCLUSION: All patients with TBI may not require hourly neurologic assessments in the ICU. The majority of patients in our review did not experience a decline in GCS. Additionally, those that did decline did not trigger a significant change in clinical management. Further data is required to elucidate certain patient or injury criteria to separate patients that truly require hourly neurologic assessments from those that can be monitored in a lower acuity setting.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #134

LIPOSUCTION TREATMENT OF A MOREL-LAVALLEE LESION: A CASE REPORT

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Presenter: Shana Ardesna MD

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BACKGROUND: A Morel-Lavallee lesion is a rare condition caused by an internal degloving injury. The insult is due to a traumatic shearing force between subcutaneous fat and the underlying deep fascia and has been reported after crush injuries and ligamentous sprains. The result is disruption in the blood supply and lymphatics in the fat causing a dead space seroma to develop, which is often a source of chronic pain. There have been cases of misdiagnosed Morel-Lavallee lesions and inadequately treated lesions with recurrence and unacceptable cosmetic appearance.

OBJECTIVE: We present a case of a 33 year old female with a Morel-Lavallee lesion of the thigh 3 weeks after being run over by a truck. It is our goal that this case report will lead to the earlier diagnosis and appropriate treatment of Morel-Lavallee lesions.

METHODS: Morel-Lavallee lesions are diagnosed by physical exam and radiographic studies. On exam, our patient had severe hyperesthesia of the left thigh and a palpable fluid collection confirmed with CT imaging. Although no universal treatment algorithm exists for these lesions, typical interventions include complete excision or percutaneous drainage followed by compression. Because our patient had a strong history of poor wound healing and imaging demonstrated a thin seroma capsule, we instead elected to use a liposuction cannula to evacuate and treat the lesion. The patient was taken to the operating room where a stab incision was made at the lateral thigh and a 3mm liposuction cannula was inserted to disrupt the cavity and capsule membrane. Seroma fluid was sent for analysis. Postoperative care consisted of a temporary drain, thigh compression, and oral antibiotics.

RESULTS: Immediate reduction in the size of the lesion was appreciated intraoperatively (Figure 1, left-preoperative, right-postoperative). Postoperatively, the patient was seen at 1 week and 6 week follow-up appointments and did well with no reaccumulation of fluid. The pathology report confirmed seroma etiology and all cultures returned negative. At the end of her postoperative course, she had a reduction in pain and no recurrence of symptoms.

CONCLUSION: Morel-Lavallee lesions can occur after any shearing force and can be painful and disfiguring if left untreated. Here we reported a case that was diagnosed early and treated with liposuction, resulting in pain reduction and an acceptable cosmetic outcome.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #135

BURN SERUM STIMULATED MITOCHONDRIAL FISSION DECREASES WITH IL6 ANTIBODY TREATMENT

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Presenter: Alvand Sehat BA

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BACKGROUND: Burn patients suffer muscle mass loss associated with hypermetabolism. Impairment of mitochondrial function has been observed in muscle of burned patients. Burn serum contains dysregulated cytokines and metabolites, such as IL6 and TNF α , and these persist after burn.

OBJECTIVE: This study investigated the role of IL6 in burn serum stimulating adverse mitochondrial responses in muscle cells.

METHODS: To determine IL6 dose response, murine C2C12 myoblasts were exposed to 0.01, 0.1, 1, and 100 ng/ml doses of recombinant IL6 protein. Further, C2C12 cells were exposed to 10% serum from normal rats, 40% total body surface area (TBSA) scald burned rats or sham burned rats.

Lastly, cells were exposed to burn rat serum with an inactivating IL6 antibody. All cells were labeled with MitoTracker Green dye after stimulation, and live cell images were recorded by confocal microscopy. Expression of caspase 3 in the cells was examined.

RESULTS: The 0.01, 0.1, and 1 ng/ml doses of rIL6 showed a 4 fold increase in mitochondrial volume (μm^3), an increase in the intensity signal from Mitotracker, and a loss of normal mitochondrial elongation. In cells cultured with 10% serum and IL6 antibody treatment, these effects were reversed and confirmed by confocal microscopy. Consistently, expression of caspase 3 in the IL6 antibody treatment group was decreased ($p < .05$).

CONCLUSION: IL6 stimulates an increase in mitochondrial fragmentation in myoblasts, which is similar to the effect of burn serum stimulation; inactivating IL6 antibody treatment decreases mitochondrial fragmentation and cell death in burn serum stimulated myoblasts.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #136

ENDOVASCULAR MANAGEMENT OF TRAUMATIC AORTOCAVAL FISTULA AND VISCERAL PSEUDOANEURYSM

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Presenter: Khalil Chamseddin, MD

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BACKGROUND: A traumatic aortocaval fistula is an extremely rare complication of penetrating abdominal trauma. There are very few descriptions of an endovascular approach to repair.

OBJECTIVE: To describe our endovascular repair of a aortocaval fistula and renal stump pseudoaneurysm following gunshot wound and laparotomy.

CASE DESCRIPTION: The patient is a 23 year old man who presented to our trauma center after being shot in the left upper flank. He was taken emergently from the trauma bay to the operating room where an exploratory celiotomy and extension to anterolateral thoracotomy was performed. He underwent primary repair of an inferior vena cava (IVC) injury, splenectomy and distal pancreatectomy. Shortly after transfer to the intensive care unit (ICU) the patient developed shock refractory to transfusion. On emergent return to the OR he was found to have a blast injury to the aorta near the left renal artery as well as active bleeding from the left kidney. A left nephrectomy was performed with a primary aortic repair. Further returns to the OR during his admission were notable for transverse colectomy and end ileostomy with abdominal closure. His post-operative course was complicated by a mild hypoxic brain injury, peripheral neuropathy and a pancreatic leak controlled with closed suction drainage. A month post operatively he remained persistently tachycardic with weak femoral pulses. His left upper quadrant drain character became bloody, prompting imaging of his mesenteric vasculature for a possible visceral pseudoaneurysm. On angiography an ACF was seen below the right renal artery with narrowing of the residual aorta and a left renal artery stump pseudoaneurysm. He was taken to the operating room and his ACF was excluded with a 12 mm Amplatzer plug and covered with a 10 mm iCAST stent, post dilated to 14 mm. The left renal stump pseudoaneurysm was excluded with the stent as well.

RESULTS: Post-operatively his heart rate and distal pulse exam improved and he was discharged to rehab. Follow up CT Angiogram at 6 months showed a patent infrarenal stent without signs of fistula, migration, endoleak or stenosis.

CONCLUSION: We successfully treated a traumatic ACF and adjacent visceral pseudoaneurysm using an Amplatzer plug and covered stent. Our patient has an excellent result at 6 months.

Endovascular management of traumatic ACF found after initial laparotomy has potential for a high technical success rate and low morbidity.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #137

HEART RATE VARIABILITY AS A POTENTIAL DIAGNOSTIC TOOL IN BURN SEPSIS

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Presenter: Omar Nunez Lopez MD

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BACKGROUND: Sepsis represents one of the leading causes of death in burn patients. Early initiation of systemic antibiotic therapy relies on prompt identification of sepsis. Diagnosis of sepsis in burn patients is difficult due to the overlap of clinical signs present in both, sepsis and the hypermetabolic response after burns. The use of non-invasive monitoring of “new vital signs” is emerging as a new tool in the diagnosis of several physiological and pathological processes.

OBJECTIVE: To evaluate heart rate variability (HRV) changes associated with sepsis in burn patients.

METHODS: Nine adult patients who sustained large burns (>30% TBSA) admitted during the first 24 hours following burn injury were enrolled in this ongoing IRB-approved (14-0318) prospective study. Clinical diagnosis of sepsis was established using the ABA criteria. Data was stratified according to sepsis/non-sepsis status. Electrocardiogram (ECG) waveforms were recorded at real-time from the bedside monitor by PowerLab or IxTrend 2.0 at 500 HZ. ECG data were pre-processed and analyzed for HRV with Matlab. We calculated linear dynamics: Standard deviation of Heart Rate (SDR) and RR Interval (SDRR), the proportion of NN intervals differing by more than 50 msec (pNN50), and non-linear dynamics: SD1 (short-term variance), SD2 (long-term variance) and SD1/SD2 ratio. Statistical significance was analyzed using one-way ANOVA for significant difference test.

RESULTS: Seven subjects (78%) were male. Average age was 31 ± 11 years, TBSA burn was $54 \pm 24\%$, and 3rd degree TBSA burn was $40 \pm 28\%$. Eight subjects sustained flame burns. One patient sustained electrical/flame thermal injuries. Three patients developed sepsis during the study period. All subjects were admitted within 3 hours after burn. Although standard HR was not significantly different between septic and non-septic patients (139 vs 115 bpm; $p=0.09$), RR interval was decreased in septic patients (452 vs 587 msec; $p=0.02$) and a lower SD1/SD2 ratio consistent with decreased HRV was observed (0.9 vs 0.65 ; $p=0.04$).

CONCLUSION: Sepsis after burn injury is associated with decreased HRV. Real-time HRV analysis represents a potential bedside tool for the early diagnosis of sepsis in burn patients.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #138

EXTRACORPOREAL MEMBRANE OXYGENATION WITHOUT ANTICOAGULATION IN TRAUMATIC BRAIN INJURY

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Presenter: Nathan Vaughan MD, MPH

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BACKGROUND: Advancements in extracorporeal membrane oxygenation (ECMO) technology have made way for expanded utilization. With the proven efficacy in acute respiratory distress syndrome, utilization in trauma has seen significant growth and the subsequent increase in experience. With the known bleeding risk, intracranial hemorrhage has been a relative contraindication.

OBJECTIVE: We present the management of a multiply-injured patient with severe acute respiratory distress syndrome (ARDS) refractory to conventional ventilation that was treated venovenous ECMO without anticoagulation in the setting of a traumatic brain injury.

METHODS: We review the literature regarding traumatic brain injury and the management related to our patient. We performed a search of the literature regarding the utilization of ECMO in the setting of traumatic brain injury with further focus on the utilization of anticoagulation.

RESULTS: The literature describes 11 patients treated with ECMO after sustaining a traumatic brain injury. There is variable timing and dosing in those that utilized anticoagulation. No patient had clinical worsening of their traumatic brain injury.

CONCLUSION: The literature supports utilization of ECMO in the setting of ARDS and traumatic brain injury, although the experience is limited on the role of anticoagulation. The decision to utilize anticoagulation appears to not clinically affect the outcome.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #139

COMBINATION THERAPEUTIC APPROACH FOR MUSCLE FUNCTION IMPROVEMENT IN INJURED MICE

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Presenter: Rohan Kulangara

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BACKGROUND: Loss of skeletal muscle from direct injury presents debilitating effects to an individual. Established treatment methods addressing muscle loss are limited in their ability to sufficiently reconstitute the functional capabilities of muscle. Novel regenerative medicine technologies include the application of Urinary Bladder Matrix (UBM) and mesenchymal stem cells (MSCs) to restore functional muscle tissue.

OBJECTIVE: In our previous studies, we found that UBM increased muscle myoblast cell proliferation. Therefore, we examined whether co-treatment with MSCs would further augment regeneration as compared to individual treatments.

METHODS: Twenty C57BL/6 male adult mice received bilateral laceration injuries on the gastrocnemius muscle under anesthesia, and were randomly grouped to a designed treatment applied 14 days after injury. Treatment groups were 1) DMEM culture medium, 2) UBM only (150µg), 3) MSCs only (1 million mouse derived cells), and 4) UBM+MSCs. 4 additional mice served as a control baseline not receiving injury. Efficacy of treatment was analyzed through isometric muscle force testing as well as histomorphologic examination at 50 days after injury. Two-way ANOVA was applied for statistical analysis.

RESULTS: Isometric muscle force was measured, including twitch (Pt), tetanic (Po), and fatigue isometric functions with the muscle stretched to optimal length (Lo). Muscle twitch (Pt) significantly decreased in the DMEM group compared to the non-injured group at day 50 ($p < 0.05$). Furthermore, twitch significantly increased with UBM treatment, but not with MSC treatment.

Regenerating myofiber nuclei were counted and myofiber cross sectional area was measured with histology. New myotubes were identified as having centrally located nuclei. Further, Ki-67 nuclear immunofluorescence staining was performed to demonstrate proliferating satellite cells. The myofiber cross sectional area and the number of Ki-67/DAPI overlapping stained nuclei significantly increased in the DMEM group compared to the non-injured group ($p < 0.05$). No differences were observed with other treatments in injured mice at day 50.

CONCLUSION: We observed a significant improvement in muscle function with combination treatment and single UBM treatment applied 50 days after injury. The current animal model provides a tool to study muscle regeneration, and is feasible for clinical translation to address impairment in skeletal muscle function after burn injury.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #140

FACTORS PREDICTIVE OF MULTIPLE ORGAN DYSFUNCTION FOLLOWING TRAUMATIC BRAIN INJURY

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Presenter: Sungho Lee MD

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BACKGROUND: Traumatic brain injury (TBI) is a major cause of morbidity and mortality. Multiple organ dysfunction occurs frequently after TBI and independently worsens outcome. Previous studies have shown that inflammatory response plays a central role in its development. Nonetheless, specific factors influencing its extent have not been well characterized.

OBJECTIVE: In order to identify potential admission characteristics associated with post-TBI multiple organ dysfunction, we performed a secondary analysis of a recent randomized clinical trial studying the effects of erythropoietin and blood transfusion threshold on neurological recovery after severe TBI.

METHODS: Multiple organ dysfunction was measured by the Sequential Organ Failure Assessment (SOFA) score. International Mission for Prognosis and Analysis of Clinical Trials (IMPACT) score and Injury Severity Score (ISS) were used to assess TBI severity and polytrauma at baseline, respectively. Concentrations of plasma and cerebral spinal fluid (CSF) inflammatory markers were determined using commercially available kits.

RESULTS: Severity of TBI was significantly associated with higher total SOFA scores ($r = 0.44$; $P < 0.001$). Initial plasma concentrations of IL-6, IL-8, and IL-10 also showed significant positive correlation with total SOFA scores ($r = 0.39$, $r = 0.27$, and $r = 0.29$; $P < 0.001$). Interestingly, non-life threatening polytrauma was not associated with higher total SOFA scores.

CONCLUSION: Taken together, these data suggest that TBI has far-reaching effects beyond the brain, even in the absence of polytrauma, by contributing to a broad systemic inflammatory response.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #141

PEDIATRIC AORTOILIAC INJURY FOLLOWING BLUNT TRAUMA

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Presenter: Edward Daniele MD

BACKGROUND: Although trauma and unintentional injury is the most common cause of mortality in children, trauma related pediatric vascular and aortic injuries are extremely rare. The most common mechanism of aortic injury reported are motor vehicle collisions with disruptions occurring almost exclusively in the chest. Abdominal aortic injury following blunt trauma is 20 times less likely than the thoracic aorta.

OBJECTIVE: The clinical presentation and repair of the aorta varies depending upon the mechanism, ranging from ATV accidents to soccer injuries. There are few reports regarding pediatric abdominal aortic injury following blunt trauma since the incidence is low. Most repairs described in the literature were performed with Dacron, PTFE, or primary repair alone with limitations to each modality. As such, the choice of operative technique remains controversial. We present a related case with our corresponding outcome.

METHODS: We present a 7 year old boy involved in a high speed, head-on motor vehicle collision. The patient was a rear passenger restrained by a lap seat belt. On scene, he was hemodynamically stable with no loss of consciousness. He was transferred to our hospital over 3 hours after the incident with abdominal pain. A computerized tomography (CT) scan demonstrated pneumoperitoneum, suspicion for a distal aortic tear, and a chance fracture of the L3 vertebra. He was taken for an emergent laparotomy. A cecal perforation with peritoneal contamination and a sigmoid deserosalization were identified and treated with an ileocecectomy and diverting colostomy, respectively. Upon exploring the retroperitoneum, a 2 cm transection of the intimal layer of the distal aorta was identified. A patch of bovine pericardium was used to bridge the proximal iliac and distal aorta at the bifurcation. Remaining adventitia and intima were re-approximated over the bovine pericardium bridge with a 6-0 prolene. Following the procedure, the patient had palpable distal pulses.

RESULTS: He went to the pediatric intensive care unit postoperatively. He underwent a tube thoracostomy on post operative day (POD) 3 after progression of a left sided pneumothorax. On POD 5, he was mobilizing. On POD 6, he underwent CT angiography, which demonstrated no leak or aneurysm formation. He was safely discharged home on POD 11 on no anti-platelet or anticoagulant therapy. Since the patient was from out of state, his follow-up was arranged with local surgeons. As such, long term follow-up data has yet to be obtained.

CONCLUSION: Pediatric aortic trauma is a rare occurrence and as such, presents a dilemma when deciding the approach to operative repair. Furthermore, the continued growth of the child and long term follow up must be considered. Multiple approaches have been described in adults with varying results and recommendations, and indeed, there is no consensus in children as well. We present a difficult case of aortic injury in the setting of multi-system trauma and gross contamination with a good outcome.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #142

THE USE OF METHADONE PLUS GABAPENTIN AS A MULTIMODAL PAIN REGIMEN COMPARED WITH TRADITIONAL PAIN MANAGEMENT PROTOCOLS IN BURN PATIENTS: A RETROSPECTIVE STUDY.

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Presenter: Elmira Ahnood Student

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BACKGROUND: Traditional means of pain control in burn patients has typically been opioids, mainly morphine. Most common opioids have multiple side effects that include reduced GI motility,

nausea, vomiting, tube feeding intolerance, urinary retention, sedation, and delirium. Methadone on the other hand, although a very adequate pain reducing medication, has minimal opioid like side effects. In addition, gabapentin, a neuropathic pain reduction pain medication potentiates the action of Methadone and in combination improves overall pain management, again without many side effects. Finally, the use of this regimen is significantly more cost effective.

OBJECTIVE: To demonstrate adequate pain control while reducing serious side effects of traditional pain therapies such as opioids in combination with benzodiazepines.

METHODS: Retrospective review of EHR was performed for 75 patients treated with methadone/Gabapentin as well as 75 patients treated with traditional opiate/opioids for pain and benzodiazepines. Data was extracted for demographic information, wound severity, as well as assessment of level of pain management (Likert pain scale), sedation and delirium (RASS and CAM scores) GI tract function and nutrition tolerance, and cost.

RESULTS: Methadone/gabapentin demonstrated adequate pain control with minimal delirium, GI tract complications, urinary tract complications. In addition, it showed a statistically evident reduction in cost.

CONCLUSION: Methadone/gabapentin has demonstrated in our unit to be a superior pain management approach with reduced side effects and at least equivalent if not improved pain control, using enteral route as opposed to the need for intravenous infusion, in a cost effective way.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #143

POCKET ROCKET: CLINICAL CONSEQUENCES OF LITHIUM BATTERY EXPLOSION IN ELECTRONIC CIGARETTES

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Presenter: Audrey Hand MD

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BACKGROUND: Electronic nicotine delivery systems (ENDS), or E-cigarettes, are devices delivering nicotine, flavor, and other chemicals to the user in vapor form (FDA, 2009). An alarming rise in E-cigarette usage is noted in the last 3 years, more so among high-school aged youth. Unlike traditional tobacco products, ENDS do not contain any health warnings or FDA-approved messages intended for the user (FDA, 2016). ENDS are composed of a lithium battery and a heating element to vaporize nicotine and liquid flavoring contained in a cartridge.

An increase in blast burn injuries related to ENDS has been observed over the last year. Limited literature exists on the potential danger and medical consequences of the thermal and chemical burns associated with ENDS. A case series was reported earlier in 2016 by Nicoll, Rose, and colleagues. The authors recommend early debridement of such wounds to remove the lithium residue.

OBJECTIVE: Electronic nicotine delivery systems are potentially hazardous causing blast injuries to users. Specialized care is necessary and prevention strategies need to be investigated.

METHODS: A retrospective chart review was performed of all patients admitted to a verified burn center with blast injury related to E-cigarettes in the last year. Those under 16 or over 89 years of age were excluded.

RESULTS: Six cases of burn related to ENDS use were identified in review. Average total body surface area for injuries was 4.2 percent (range 0.25-6.5%). Locations of injuries included thighs (5 of 6), hands (2 of 6), and face (1 of 6). Four of the patients required skin grafting averaging 707 cm²

in size (range 465-975 cm²). Greater than 90% graft adherence was achieved in all operative cases. One patient has traumatic tooth loss from the explosion and had further extraction required as an outpatient totaling 6 teeth lost due to injury. One patient experienced donor site infection after discharge home treated as an outpatient. One patient experienced explosion while driving and was able to stop the vehicle despite clothing being ignited, luckily no collision occurred.

CONCLUSION: The series of patients demonstrate the significance of ENDS related injuries, often requiring surgical intervention. Results can leave the patient with scars and permanent disfigurement. Typical patterns associated with ENDS related injuries include burns on thighs from holding the device in pockets and injury to face and hands due to explosion during use.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #144

FORGET-ME-NOT: A CASE OF RARE CONCOMITANT UPPER AND LOWER EXTREMITY COMPARTMENT SYNDROMES

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Presenter: Brittany Bankhead-Kendall MS, MD

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BACKGROUND: In the setting of an unresponsive or acutely altered patient who is known or suspected to be "found down", high index of suspicion for compartment syndrome should be maintained to preserve life, limb, and function. While compartment syndrome itself is not uncommon, a patient requiring multiple fasciotomies of both upper and lower extremity is rare.

OBJECTIVE: Our objective is to raise awareness to the possibility and potential of multiple limb fasciotomies, especially in "found down" patients.

METHODS: n/a

RESULTS: A 23 year old male with history of IV drug abuse was brought unresponsive to the ER, reportedly found down after an estimated 7 hours on his right side. Admission to the medical intensive care unit revealed rhabdomyolysis and progressive swelling of the right lower extremity. While lower extremity compartments were initially soft, the patient's altered mental status did not afford a reliable exam. Upon reexamination, some passive movement of the R proximal hip began to elicit tenderness, and bedside compartment pressure in the right gluteus was measured to be 67mmHg. Examination at this point also revealed worsening right thigh, right calf, and right forearm compartment swelling. The patient was taken to the operating room where a right gluteal, right thigh, and right calf fasciotomy were performed. Right forearm pressure intraoperatively was measured to be 38mmHg, and fasciotomy was performed here as well (see Image 1). In the weeks that followed, negative pressure therapy was used to facilitate closure and only his right calf required skin grafting.

CONCLUSION: In the setting of acute mental status change and a "found down" scenario, a high index of suspicion must be maintained to preserve life and limb from compartment syndrome. This suspicion should include not only the more common calf or thigh, but also the gluteal compartments, as well as the upper extremity compartments of the concomitant side. Serial physical exams should be diligently performed, and compartment pressures measured if needed. It is important to emphasize in surgical training that lower extremity symptoms do not negate upper extremity pathology, and should not be forgotten.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #146

DELAYED PRESENTATION OF TRAUMATIC DUODENAL PERFORATION LEADING TO EARLY EMPYEMA

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Presenter: Karla Leal M.D.

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BACKGROUND: Blunt traumatic injuries to the duodenum happen infrequently in trauma patients and they are usually the result of crushing or shearing forces. Anatomic location makes diagnosis of duodenal injuries challenging.

OBJECTIVE: Delay in diagnosis of duodenal injuries is associated with significant morbidity and mortality, with mortality rates reaching 40% when diagnosis is delayed beyond 24 hours. Early diagnosis of duodenal injuries requires a high index of suspicion. There is no single specific diagnostic test to consistently and accurately diagnose such injuries. The best assessment for duodenal injury should begin in the emergency room with a high index of suspicion based on mechanism of injury and associated traumatic injuries.

METHODS: Patient is a 45-year-old male who presented after being involved in high-speed motor vehicle crash with ejection. Upon trauma evaluation patient was found to have sustained left sided rib fractures 3-9th with presence of pneumo-hemothorax, which was successfully treated with tube thoracostomy. Preoperative CT revealed a gravity defined fluid collection in the left side of the chest. On hospital day number four, patient was taken to the operating room for left lateral thoracotomy for washout and rib plating. Intraoperative findings included a left lung with significant amount of rind along the displaced rib fractures. After successful open reduction and internal fixation of ribs, patient was monitored in surgical intensive care unit. On postoperative day number two patient's morning chest radiograph depicted free intraabdominal air. Patient was asymptomatic at the time, with normal vital signs and normal laboratory studies. He was taken to the operating room for exploratory laparotomy to investigate pneumoperitoneum. Upon return to operating room, patient was found to have a posterior duodenal perforation measuring 2 cm by 1 cm as well as a 6 cm laceration to the left hemi-diaphragm.

RESULTS: Patient underwent partial gastrectomy and duodenal resection, gastrojejunostomy anastomosis, gastrojejunostomy feeding tube placement and diaphragmatic laceration repair.

CONCLUSION: Diagnosis of blunt duodenal injuries is prone to delay due to its infrequent presentation. A high index of suspicion should be kept for patient's with unexplained symptomatology after initial resuscitation and stabilization. Duodenal perforations do not typically present with abdominal pain and frequently, diagnosis is not done until bacterial infections develop.

The early presentation of an empyema on the patient being discussed should have been a point of focus. This patient had an associated missed diaphragmatic injury, which facilitated extravasation of duodenal contents into the chest. It was not until radiographic changes were observed that this injury was diagnosed. In retrospect, the early development of an empyema should have been a clue of intraabdominal source of infection.

POSTER SESSION 4 - -TRAUMA, CRITICAL CARE, AND BURNS

Poster #147

A COMPARISON OF PROGNOSIS CALCULATORS FOR GERIATRIC TRAUMA: A P.A.L.L.I.A.T.E. CONSORTIUM STUDY

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Presenter: Tarik Madni MD

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BACKGROUND: The nine-center PALLIATE consortium has validated the Geriatric Trauma Outcome Score (GTOS) as a prognosis calculator for injured elders.

OBJECTIVE: We compared GTOS' performance to that of the Trauma Injury Severity Score (TRISS) in a multicenter sample composed exclusively of geriatric trauma patients.

METHODS: Three PALLIATE centers not submitting subjects to the GTOS validation study identified subjects aged 65 to 102 yrs admitted from 2000-2013. GTOS was specified using the formula [GTOS = age + (ISS x 2.5) + 22 (if transfused packed red cells (PRC) at 24 hrs)]. TRISS uses the Revised Trauma Score (RTS), dichotomizes age (55 yrs=1), and was specified using the updated 1995 beta coefficients. TRISS Penetrating was specified as [TRISSP = -2.5355 + (0.9934 x RTS) + (-0.0651 x ISS) + (-1.1360 x Age)]. TRISS Blunt was specified as [TRISSB = -0.4499 + (0.8085 x RTS Total) + (-0.0835 x ISS) + (-1.7430 x Age)]. Each then became the sole predictor in a separate logistic regression model to estimate probability of mortality. Model performances were evaluated using misclassification rate, Brier score, and AUC.

RESULTS: Demographics (mean + SD) of subjects with complete data (N=10,894) were age=78.3 yrs ± 8.1; ISS=10.9 ± 8.4; RTS=7.5 ± 1.1; mortality=6.9%; blunt=98.6%; received PRCs at 24 hrs=3.1%; arrived intubated=8.2%. The penetrating trauma sub-sample (n=150) had a higher mortality rate of 20.0%. The misclassification rates for the models were GTOS=0.065, TRISSB=0.051, and TRISSP=0.120. Brier scores were GTOS=0.052, TRISSB=0.041, and TRISSP=0.084. The AUCs were GTOS=0.844, TRISSB=0.889, and TRISSP=0.897.

CONCLUSION: GTOS and TRISS function similarly and accurately in predicting probability of death for injured elders. GTOS has the advantages of fewer variables to be collected, no reliance on data collected in the Emergency Room or by other observers, and a single formula for all mechanisms of injury.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #148

INTEGRATION OF STRUCTURED ROBOTIC CURRICULUM IMPROVES GENERAL SURGERY RESIDENT EDUCATION

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Presenter: Sarah Mustafa MD

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BACKGROUND: Minimally invasive surgery's causes a negative impact on general surgery residency training because laparoscopic cases get filtered from teaching institutions to outpatient surgery centers, often without a compensatory educational curriculum response.

OBJECTIVE: Evaluate a robotic training curriculum to improve the general surgery residents' minimally invasive surgery experience.

METHODS: A retrospective review of all ventral and inguinal hernia surgeries in a 3 year span at a single institution was conducted to determine utilization of open, laparoscopic, and robotic hernia surgeries before and after institution of a robotic training curriculum.

RESULTS: Before robotic curriculum institution, 739 hernia surgeries were performed; 642 (87%) open, 93 (13%) laparoscopic, and 4 (0.5%) robotic. After robotic curriculum institution, 682 hernia surgeries were performed; 529 (78%) open, 54 (8%) laparoscopic, and 99 (15%) robotic. Robotic ventral hernia surgeries increased from 0.1 to 1.15 surgeries per month ($p=0.0008$), and robotic inguinal hernia surgeries increased from 0.1 to 3.8 surgeries per month ($p<0.0001$). Resident participation in robotic hernia surgeries increased from 50% (2 out of 4 cases) to 62% (62 out of 99 cases).

CONCLUSION: Institution of a robotic curriculum improved the general surgery residents' minimally invasive surgery experience.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #149

IS SURGERY LAGGING BEHIND IN MEDICAL EDUCATION? SURVEY OF MEDICAL STUDENTS ON THEIR PERCEPTION OF ATTENDINGS DURING CLERKSHIP ROTATIONS.

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Presenter: Edward Cho MD

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BACKGROUND: Stereotypes about surgery can pervade through the medical school, negatively altering the perception of students prior to their clerkship experience.

OBJECTIVE: We sought to investigate whether those perceptions, positive or negative, existed for each of the core specialties and whether those perceptions improved after completing their clerkships.

METHODS: A 13-question Likert scale questionnaire was distributed to M1-4 medical students at a single osteopathic institution in year 2016. M1-2 were surveyed for their opinion going into clerkships in ER, internal medicine, family medicine, ob/gyn, pediatrics, psychiatry and surgery and M3-4 were surveyed for their opinion after clerkship completion. Descriptive analysis of the data was performed.

RESULTS: Overall perception of students regarding faculty was lowest for surgery compared to other core specialties. Surgery was the only clerkship where the overall perception of surgical faculty fell significantly from pre-completion to post-completion of clerkships (Figure 1). Medical students felt that surgical faculty showed the least interest in teaching, in displaying patience to the students, and in displaying interpersonal skills to students and other staff.

CONCLUSION: Surgery continues to be a challenging rotation to the medical students, with pre-clerkship perception being the lowest among all medical disciplines. Disturbingly, the students' perception of the surgical faculty's interpersonal skills and willingness to interact with and teach medical students fell after completion of rotation. This survey serves as a reminder to the teaching faculty to serve as a role model for the medical students.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #150

DEVELOPMENT OF A METHODOLOGY TO REDUCE MORTALITY USING THE VETERANS AFFAIRS SURGICAL QUALITY IMPROVEMENT PROGRAM (VASQIP) RISK CALCULATOR

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Presenter: George Flores Medical Student

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BACKGROUND: Best patient care, quality, and cost may be optimized at the institutional level by determining specific risk thresholds for patient transfer to a higher level of care. Development of a risk assessment tool has the potential to dramatically reduce mortality and improve outcome by identifying this patient subset prior to surgery. The Veteran's Administration (VA) utilizes the Veterans Affairs Surgical Quality Improvement Program (VASQIP) database and VASQIP Risk Calculator to preoperatively identify medical complexity of patients undergoing surgical procedures within the VA. Preoperative risk threshold determination and correlation with post-operative mortality in high risk Veterans transferred to a higher level of care is undetermined.

OBJECTIVE: The primary goals of this study were twofold: (1) To develop institution specific methodology that defines optimal risk threshold criteria for transfer of Veterans undergoing elective surgery at a single VA Intermediate Surgical Level facility; (2) To demonstrate a decrease in 30 day postoperative mortality for Veterans transferred a higher level of care.

METHODS: The VASQIP database was used to access information on patients undergoing surgical procedures within the VA. All patients undergoing elective non-cardiac surgery in 2013 at a single center were stratified by 30-day mortality. Predicted patient mortality was calculated using the VASQIP Risk Calculator. A receiver operator curve (ROC) was constructed to determine the calculated risk threshold. Primary outcome measures included sensitivity, specificity, false positive rate, and predicted reduction in mortality.

RESULTS: A total of 15 out of 425 patients undergoing VASQIP eligible procedures were reported during 30-day mortality after surgery. The VASQIP Risk Calculator had good accuracy at 0.803 (Standard Error 0.069; 95% Confidence Interval [0.667 to 0.938]) for identifying patients with 30-day mortality. A calculated risk threshold of 3.3% identified 15.9% Veterans benefiting from transfer to a higher level of care, with a 30 day predicted reduction of 73% in postoperative mortality.

CONCLUSION: Institution specific risk threshold calculation accurately identifies benefit to complex preoperative patients within the VA system who have a significant predicted reduction in postoperative mortality after transfer to higher level of care. This model offers valuable utility to surgeons, patients, and healthcare systems in making important decisions that optimize quality, care, and cost within individual institutions. Institution specific risk threshold calculation has the potential to dramatically reduce mortality and identify appropriate patients for transfer to a higher level of care. Actual decrease in 30 day postoperative mortality of high risk Veterans transferred to higher level of care remains to be determined.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #151

DRIVING QUALITY IMPROVEMENT WITH ENHANCED RECOVERY AFTER SURGERY: THE ROLE OF EARLY FOLEY CATHETER REMOVAL

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Presenter: Alyssa Mercadel BS

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BACKGROUND: To improve patient and financial outcomes, a division-wide colorectal Enhanced Recovery After Surgery (ERAS) initiative was implemented in August 2016. For continuous quality improvement, audit of compliance with individual elements and results was performed after 3 months. Early catheter removal is an important element, as catheters can contribute to decreased ambulation, ileus, longer lengths of stay (LOS), and catheter-associated urinary tract infection (CAUTI)- common, preventable, and costly complications.

OBJECTIVE: To assess the compliance and results with the early catheter removal element of an ERAS protocol.

METHODS: A divisional database for was retrospectively reviewed for ERAS patients and compliance with each ERAS element. Patients that had urinary catheters postoperatively were identified, and compliance with early catheter removal- defined as POD 1 or 2 (for APR/low pelvic resection)- was analyzed for the 1st 90 days after initiation. The main outcome measures were the compliance with catheter removal, reasons for failure, and impact on LOS and CAUTI rates.

RESULTS: During the study period, 45 ERAS patients left the operating suite with a catheter. 88.9% (n=40) were compliant with early catheter removal; 5 were not. There were no discernable trends in age, gender, procedure, or operative approach for those noncompliant with early catheter removal. Six ERAS patients had catheters reinserted for retention- 5 were compliant with early removal, 1 was not. 2/6 patients that had catheters reinserted developed a CAUTI (both initially compliant with early removal). The LOS was 3.7 (SD 1.8) days for early-catheter compliant patients versus 6.4 (SD 2.7) days for those with a prolonged catheter course. The mean total direct costs for the hospital episode for early catheter removal patients was \$12,750 (SD \$5,642) compared to \$16,854 (SD \$9,645) for patients with a prolonged catheter course. In the two CAUTI patients, the mean LOS was 6 (SD 1.5) days and total direct costs were \$13,663 (SD \$5,813).

CONCLUSION: As a single element of an ERAS protocol, an early catheter removal policy has potential to greatly contribute to overall improvement. While the sample size was too small to draw significant conclusions, this process measure related directly to LOS and costs. Lack of compliance appeared to be a system issue- not patient related, so it can be addressed with process improvement. Further attention will be given to reducing reinsertion, as this subset is susceptible to complications. Given the early outcomes, continued focus will be on compliance for ongoing quality improvement.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #152

USING ENHANCED RECOVERY AFTER SURGERY TO IMPROVE PROCESS CONTROL IN COLORECTAL SURGERY: FOCUS ON LENGTH OF STAY

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Presenter: Jessie Ho BS

Texas A&M University College of Medicine, Dallas, TX

BACKGROUND: Evaluation of outcomes is critical to optimize surgical quality. Length of stay (LOS) is increasingly recognized as a quality measure, and has implications for patient and financial outcomes.

OBJECTIVE: To evaluate the impact of a newly implemented enhanced recovery after surgery (ERAS) pathway on length of stay after elective colorectal surgery.

METHODS: After multidisciplinary development, a division-wide ERAS program was initiated August 1, 2016. For a high-level view of the impact, LOS was evaluated for the 1st 60 days after

ERAS implementation. These patients were matched 1:2 to patients from the same time period from the prior year (pre-ERAS) on parameters including surgeon, gender, procedure, and approach. Statistical process control was used to evaluate the impact of our ERAS program on LOS.

RESULTS: 30 ERAS patients were matched to 60 pre-ERAS patients. The ERAS group had a significantly shorter length of stay (mean 3.9 vs. 5.3 days; $p < 0.01$). Once ERAS was incorporated, the spread around the mean length of stay was also more controlled (SD 2.9 vs. 1.6 days). The reduction in LOS has led to a direct cost savings per case in the 1st 60 days (\$12,105 vs. \$12,858).

CONCLUSION: Even early in implementation, a division-wide ERAS program significantly reduced LOS and variation around the mean LOS. While surgery is a complex system, the standardized protocol has increased control and costs around LOS, a primary quality measure. Based on these results, regular assessment will be made for ongoing process improvement.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #153

IMPACT OF FEEDBACK MODALITY ON LAPAROSCOPIC SIMULATION LEARNING FOR MEDICAL STUDENTS

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Presenter: Yangyang Yu MD

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BACKGROUND: Laparoscopic simulation offers surgeons at all levels of training the opportunity to improve surgical skills. Medical students are surgical novices as they have limited exposure to laparoscopic training.

OBJECTIVE: The purpose of this study was to compare feedback methods for medical students learning simulated laparoscopic appendectomy.

METHODS: Fourth year medical students enrolled in the Entering Surgical Internship Prep Camp were recruited. All students completed a pre-study questionnaire assessing their level of exposure to laparoscopic appendectomy and their confidence in performing the procedure. They then performed a laparoscopic appendectomy (retrocecal appendix) on the LapMentor simulator without guidance. Students were divided into "Group Didactic" (GD) or "Individual Coaching" (IC) feedback groups using a matched pairs design based on their procedure time. In the GD feedback group, an attending surgeon reviewed a video compilation of the students' performance and provided feedback, operative guidance, and discussion for a 30-minute session. In the IC feedback group, students received one-on-one guidance from an attending surgeon while performing the simulated laparoscopic appendectomy for the second time. All students completed a post-study questionnaire. Baseline and post-feedback performance metrics were analyzed with t-tests.

RESULTS: Twelve medical students, 58% ($n=7$) male, 92% ($n=11$) right-handed, and 83% ($n=10$) with average video game experience of 12.5 ± 5.9 years, participated. Fifty-eight percent had observed less than 5 laparoscopic appendectomies during rotations. Overall, there was a significant improvement in procedure time (pre-17.8 minutes vs. post-8.5 minutes, $p < 0.001$), path lengths (left: pre-1110 cm vs. post-430 cm, right: pre-2315 cm vs. post-982 cm, $p < 0.001$), instrument movements (left: pre-707 vs. post-279, right: pre-1115 vs. post-476, $p < 0.001$), and idle time (pre-3.8 min vs. post-2 min, $p = 0.001$). There was no difference in appropriate camera use (%), speed (cm/s), or exposure (%). The IC feedback group had significantly slower right hand speed (IC 2.9 cm/s vs. GD 4.2 cm/s, $p = 0.001$), longer idle time (IC 2.8 min vs. GD 1.4 min, $p = 0.001$) and longer total procedure time (IC 10 min vs. GD 7 min, $p = 0.04$) compared to the GD feedback group. Overall, students reported 45% improvement in confidence ($p < 0.001$) to perform the operation after this experience, higher in the IC feedback group (IC 58% vs. GD 32%, $p = 0.02$).

CONCLUSION: The results of this pilot study demonstrate that individual coaching and group didactic feedback can both effectively improve medical students' basic laparoscopic skills and confidence. Individual coaching feedback mirrors current intra-operative teaching methods. However, for novice surgeons, group video-based didactic feedback from experienced surgeons using a simulator may be a viable, time-saving alternative. A larger study is required for validation.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #155

ASSESSING THE RISK OF OSTEOPOROSIS RELATED HIP FRACTURES

MY Moses, MS

Presenter: MyLisa Moses MS

Ross University School of Medicine, Webster, Texas

BACKGROUND: Osteoporosis is a frequently encountered metabolic disease affecting up to 1 in 3 women and 1 in 12 men in the United States and is responsible for more than 1.5 million fractures annually. These fractures can lead to significant morbidity and mortality. The costs of osteoporotic fractures are estimated at \$20 billion annually. Hip fractures represent a minority of these fractures but are associated with significant adverse outcomes and consume a large majority of total fracture related health care costs. Several factors contribute to the risk of factors such as advanced age, overall fall risk, and reduced bone strength. Adequate risk assessment and management of at-risk populations could result in a decreased incidence of osteoporotic fractures and the associated morbidity, mortality and healthcare costs. The aim is to review risk assessment tools available and the utility in clinical practice.

OBJECTIVE: To review risk assessment tools available and their utility in clinical practice.

METHODS: A systematic review of Cochrane Library, PubMed Central, and MEDLINE was conducted. Articles for review included population-based studies discussing modalities to measure bone mineral density (BMD), estimate fracture risk without BMD, and/or augment risk assessment in addition to BMD.

RESULTS: Many modalities for assessing fracture risk have been evaluated in population based settings. The most encountered methods were dual energy x-ray absorptiometry (DXA), quantitative ultrasound, the Osteoporosis Self-Assessment Tool (OST), and the absolute fracture risk model (FRAX). Quantitative ultrasound and the OST offer accessibility, ease of use, and low-cost options though both lack a widely accepted risk score threshold for clinical application. FRAX incorporates several factors contributing to fracture risk however, fall-related factors are not considered therefore possibly underestimating fracture risk in cases with a fall history. Bone strength measured as BMD is a widely accepted tool for assessing fracture risk. Measuring BMD by DXA remains the "gold standard" for determining the relative risk of osteoporotic fractures. Emerging data on the clinical application of FRAX may propose an alternative standard of risk assessment in both men and women.

DISCUSSION: Many factors contribute to an individual's fracture risk and several methods are available for use in risk assessment. The use of DXA to measure BMD is a widely accepted risk assessment tool however, rates of osteoporotic fractures have not declined using this method. Further evaluation of its utility and alternative methods should be considered. Literature search also revealed limited data regarding risk assessment in the male population.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #156

HOW THE WEST WAS WON: WEST TEXAS AS A PROVING GROUND FOR PREHOSPITAL TRAUMA CARE EDUCATION.

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Presenter: Joseph Wright BS

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BACKGROUND: In the United States trauma costs an estimated \$600 billion dollars a year. Moreover, it is the leading cause of death in individuals under the age of 45 [1]. In developed and developing countries, most morbidity due to trauma occurs in the prehospital period [2]. With the ability to improve the outcome of this critical time, the American College of Surgeons created such campaigns as “Stop the Bleed” [1]. This curriculum seeks to improve the prehospital period through teaching basic trauma medicine to a wider populace. In accordance with such programs the First Responder Trauma and Emergency Care Program aims to address the problem of rural settings having a 3 times higher mortality rate for trauma when compared to urban environments [3]. This is achieved through the implementation of a four-tiered trauma education program, which uses high-fidelity simulation, video-recorded debriefing, and retraining [4]. Previous studies show that this can be an effective strategy for teaching prehospital trauma management skills [5]. Additionally, this educational program has been shown to be efficacious in improving first responder confidence in the management of trauma [6].

OBJECTIVE: To assess the efficacy of a trauma care training program in West Texas.

METHODS: The First Responder Trauma and Emergency Care Program uses an interactive model of lectures, followed by breakout sessions where program participants practice the skills discussed in simulation environments. Simulation has previously been shown to be a useful tool in the training of trauma-related clinical skills [7]. This session was intended to test proof of concept of this type training being useful in West Texas, where sparse population and isolated location make trauma care uniquely challenging and similar in many ways to trauma care in the developing world. This study aims to assess whether the program is effective in improving specific skills related to trauma care.

RESULTS: The change in confidence of medical students was significant; $t(8)=0.005$, $p=0.013$. While no other groups showed significant changes in competence or confidence, there was demonstrated improvement in all groups.

CONCLUSION: The initial assessments point towards the First Responder Trauma and Emergency Care Program being a worthwhile effort in the West Texas region. This pilot study also shows that the sessions are likely effective in improving confidence and competence of first responders, but further studies are needed to assess whether this program produces a significant difference in these areas. Future efforts will include recreation of this session in the cities of Lubbock and Amarillo, further analysis of data points collected from these additional sessions, and determination of what additional locations would benefit from these sessions in addition to analysis of the efficacy of the program in improving trauma care. A multicenter study of this trauma program has been conducted, the results of which are due to be presented at this meeting.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #157

CREATION OF A SYSTEM-BASED MODULAR REPORTING TOOL (SMART) DASHBOARD FOR MONITORING PROCESS AND OUTCOMES OF AN ENHANCED RECOVERY PATHWAY

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Presenter: Jennifer Rabaglia MD

BACKGROUND: Enhanced Recovery Pathways (ERPs) have been shown to improve quality of care by decreasing length of stay (LOS), improving patient outcomes, and decreasing overall cost of care in colorectal surgery patients. The ability to audit both process compliance and clinical outcomes is crucial to the successful implementation of such protocols, driving identification of problems and barriers and informing future protocol optimization. Monitoring compliance and outcome data can be tedious and cumbersome, and requires additional resources not available at many institutions. An automated process to provide feedback to the clinicians in a timely manner is paramount.

OBJECTIVE: This project aimed to create an automated dashboard reflecting process compliance and clinical outcomes for all colorectal surgery patients on an enhanced recovery pathway at a single institution, which would be used to provide feedback to surgeons and the multidisciplinary treatment teams in a frequent, timely manner.

METHODS: An interdisciplinary team comprised of clinicians, data analysts and health informatics specialists was assembled. All data analysis was carried out using SAS for Windows v9.4. Procedures coded in professional billing were used to identify unique colorectal inpatient hospitalizations for the pre- and post-implementation period. Operating Room Log data was used to identify elective procedures which were classified by approach. Postoperative order set activation was used to identify patients receiving care on the pathway. The impact of the ERP was assessed by comparing a set of pre-identified process and outcome metrics.

RESULTS: Through an iterative process, our interdisciplinary team was able to generate an automated System-based Modular Reporting Tool (SMaRT) directly from information embedded in the EMR. This user-friendly dashboard is pushed to the clinical care team at regular intervals. Current metrics reflect both measures of process adherence and outcomes including LOS, return to surgery, 30-day all cause readmission, utilization of certain medications (antibiotics, antiemetics and analgesics), and time to milestones (foley removal, resumption of diet, ambulation, bowel function).

CONCLUSION: It is feasible to create an automated reporting platform for ERPs that provides timely feedback to the clinical care team regarding both process adherence and patient outcomes. This SMaRT tool now serves as a platform for continuous quality improvement.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #158

QUALITY INITIATIVES TO IMPROVE ANTIBIOTIC ADMINISTRATION TIMES FOR PEDIATRIC ONCOLOGY PATIENTS WITH NEUTROPENIC FEVER

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Presenter: Derek Yang

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BACKGROUND: Pediatric oncology patients receiving chemotherapy are at high risk of infection and sepsis. According to national guidelines, patients presenting with neutropenic fever require administration of empiric antimicrobials within 60 minutes from time of admission to reduce life-threatening complications.

OBJECTIVE: This study shows the effectiveness of process changes resulting from quality improvement study to meet guidelines.

METHODS: Retrospective chart review of pediatric oncology patients with fever and neutropenia from January–December 2015 (Year 1) and January–August 2016 (Year 2) was done. Between Year 1 and Year 2, we implemented changes determined by an interdisciplinary team to reduce antimicrobial administration times to less than 60 minutes. A STAT neutropenic fever direct admission order set was created, residents, physicians and nurses were educated on obtaining proper labs and IV fluids, and financial information number generated to expedite the registration process. A neutropenic fever “bag” was also created that included proper blood draw tubes, culture tubes, and port needles to expedite initial evaluation of the patient. Patients admitted for chemotherapy and with multiple medication changes or antibiotic orders delayed due to lab results were excluded from the study.

RESULTS: Year 1 included 48 patients, with an average time to receive antibiotics of 1 hour and 41 minutes. Only 9 (18.8%) received antibiotics within 60 minutes of admission. Year 2 included 33 patients, with an average time of 37 minutes. 29 (87.9%) patients received antibiotics within 60 minutes of admission, and the four that did not had an average time of 1 hour and 29 minutes. Reasons for delay include wrong medication ordered, pharmacy error, and delay in placing order.

CONCLUSION: By educating healthcare providers involved, creating a STAT admission process, and organizing a neutropenic fever bag, time to receive antibiotics after admission was successfully reduced. Quality improvement initiatives can improve and achieve patient care goals without extra costs.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #159

INNOVATIVE PRE-HOSPITAL CARE EDUCATION PROTOCOL IN SCHOOL STUDENTS

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Presenter: Kanza Muzaffar

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BACKGROUND: Trauma is a significant cause for morbidity worldwide in the pre-hospital period. Multiple studies show that prompt, well-executed pre-hospital care by first responders can lead to a reduction in mortality. We focused on developing confidence and competency of trauma management skills through a multi-tier innovative First Responder Trauma and Emergency Care Program to a group of future trainers and trainees in a fast growing economy with limited resources. This is a unique program taught in native, lay-person language that aims to improve patient care during critical pre-hospital time to reduce patient mortality through implementation of a four-tiered trauma education program: Massive Open Online Course (MOOC) Trauma Training, Acute Trauma Training (ATT), Broad Trauma Training (BTT), and Cardiac and Trauma Training (CTT). This program has been successfully studied to be efficacious in competency and confidence in multiple critical care skills. Basic trauma management skills were specifically targeted to assess confidence among individuals who could equip growing regions with the ability to address critical care needs in the pre-hospital period.

OBJECTIVE: The purpose of this study is to evaluate confidence in management of critical care among trainers and trainees in a limited resource setting. This educational session was also intended to test proof of concept that this type of training would be successful in populations of school teachers and students.

METHODS: The current study was conducted in New Delhi, India as part of this four-tiered trauma education program in 47 individuals. Confidence in 10 essential trauma care skills were assessed in pre and post training using a non-mandatory anonymous survey questionnaire. Comparison of pre and post-training assessments of confidence were analyzed using Wilcoxon matched-pairs signed-ranks test.

RESULTS: A Wilcoxon Signed-Ranks Test indicated that post-training confidence was statistically significantly higher than pre-training confidence: maintaining airway ($Z = -4.77, P < 0.001$), hemorrhage ($Z = -4.97, P < 0.001$), fractures ($Z = -4.69, P < 0.001$), cervical spine injury ($Z = -5.01, P < 0.001$), chest injury ($Z = -4.73, P < 0.001$), IV line placement ($Z = -5.04, P < 0.001$), extrication ($Z = -3.65, P < 0.001$), scene assessment ($Z = -4.42, P < 0.001$), triage ($Z = -3.46, P < 0.001$), and communication ($Z = -3.73, P < 0.001$). The highest increases in competence were observed in chest injury and IV line management, with lowest increases in triage and communicating.

CONCLUSION: Targeting teachers and students specifically creates an integrated learning environment within the community. Future program expansion using this “trainees-to-trainers” model offers an exponential growth model. Knowledgeable members of the lay population appropriately triage and manage traumatic healthcare incidents can improve morbidity and mortality in high-acuity, low-access-to-care, pre-hospital situations in both rural US and abroad.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #160

EARLY CHALLENGES TO ENGAGING REFUGEE POPULATIONS IN COMMUNITY-BASED CANCER PREVENTION MEASURES

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Presenter: Melissa Saucedo

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BACKGROUND: In dealing with cancer prevention there are barriers in screening; however, dealing with refugees is an added challenge. Our county is a refugee re-settlement area with 35 different languages and ethnicities. Refugees in our area only receive assistance from re-settlement organizations for a short time, causing distrust with the mainstream community.

OBJECTIVE: This study focuses on identifying potential opportunities to engage these isolated communities for cancer prevention.

METHODS: Initially relationships were established with local refugee service organizations, which provided insight of basic cultural differences and taboos but were not helpful on how to best reach out to them. Refugee leaders were identified by working with local churches. Colorectal cancer education videos were developed in key languages. Focus groups were developed and participation was incentivized with food and gift cards. Focus groups began with lunch, and ample time to build trust and break down barriers. Participants viewed a video in their native language educating them on CRC and the screening process. Subsequently, they participated in open discussion using an interpreter. Participants gave feedback on the clarity of the video, the best way to reach their community, as well as their likelihood to get screened for CRC.

RESULTS: The Swahilis and Laotians provided our team with information to improve the program for their communities, and highly valued the screenings. Somali leaders were harder to engage. Culturally Somali men do not engage in business or casual conversation with unrelated women. Somalis also said they are afraid of the word cancer and screenings, because in their culture cancer means death. All three groups said they are more comfortable when they meet in a casual atmosphere with researchers in casual dress. Financial incentives helped establish trust and showed program commitment to provide screening.

CONCLUSION: Identifying community leaders of various refugee groups is key to opening communication and engaging these populations. Community champions, and faith based leaders help researchers understand and respect cultural values and improve screening.

POSTER SESSION 5 -- EDUCATION, ETHICS, AND OUTCOMES

Poster #161

IMPROVED OUTCOMES USING INSTILLATIONAL NEGATIVE PRESSURE WOUND THERAPY IN TREATMENT OF COMPLEX SURGICAL WOUNDS: A CASE SERIES

JL Van Eps MD, P Rupert APRN, RA Ochoa MD, LJ Punch MD, S Gordon-Burroughs MD, S Martinez MD

Presenter: Jeff Van Eps MD

Houston Methodist Hospital, Houston, TX

BACKGROUND: Complex wounds are those that are either too extensive or refractory to conventional wound care, and they have become increasingly prevalent in the postsurgical patient population due to infection or extensive dissection. Tenets of effective wound healing include control of bioburden and promotion of tissue granulation, which has historically required repetitive surgical debridement and wet-to-dry dressing changes. Negative pressure wound therapy (NPWT) has revolutionized care of complex wounds via continuous debridement and earlier granulation. NPWT with instillation (NPWTi) offers a theoretical advantage of improved bioburden control, that we hypothesize may spare such patients a number of surgical debridements and shorten the length of acute hospitalization.

OBJECTIVE: To assess/highlight the utility of NPWTi in closing complex surgical wounds and minimizing the number of surgical debridements via enhanced bioburden control and early tissue granulation.

METHODS: Five patients with infected surgical wounds meeting subjective criteria of complexity and bioburden received Veraflo™ Instill® (KCI, San Antonio, TX) NPWTi vacuum-assisted closure (V.A.C.) with either hypochlorous acid (HOCL) or amphotericin solution at approximately 4 cycles/day with dwell times of 5 or 10 minutes (HOCL) and 3-4 minutes (amphotericin). Conventional NPWT therapy was initiated after NPWTi in 4 of 5 patients. Failure of therapy was defined as uncontrolled tissue infection requiring repeat debridement after planned cessation of NPWTi therapy or failure of definitive wound closure by secondary intention, skin graft or myocutaneous flap due to persistent infectious bioburden or insufficient wound granulation.

RESULTS: Infectious bacterial species ranged from gram positive, to mixed gram negative/anaerobes, to resistant Acinetobacter and Rhizopus species, and surgical sites included abdominal pannus, upper and lower extremity and perineum. Wounds ranged in largest measurement from 18-41 centimeters and duration of NPWTi treatment ranged from 8-27 days. No failures were experienced and all complex wounds were successfully closed by delayed primary closure, secondary intention, skin autograft (n=2) or myocutaneous flap. NPWTi therapy resulted in earlier wound bed granulation anecdotally and estimated to have saved each patient from at least one additional surgical debridement operation.

CONCLUSION: This study is limited by both the number of subjects and variability of wound types, precluding standardization or retrospective comparison of length of stay or cost analysis. However, this study appears congruent with the growing body of literature supporting NPWTi as a useful adjunct in complex surgical wound care due to its proclivity for ongoing source control and promotion of tissue granulation. More data is needed before drawing well-informed, objective conclusions regarding the utility of NPWTi therapy and our institution continues to gather such prospective data.

POSTER SESSION 6 -- SURGICAL ONCOLOGY

Poster #162

INVASIVE ADENOCARCINOMA IN INTRADUCTAL PAPILLARY NEOPLASM OF THE BILE DUCT

H AHMED MD, E ONKENDI MB ChB

Presenter: HASSAN AHMED MD MRCSI

TEXAS TECH HEALTH SCIENCES CENTER, LUBBOCK, TX

BACKGROUND: Intraductal papillary neoplasm of the bile duct (IPNB) is a rare variant of bile duct tumors characterized by papillary growth within the bile duct lumen and is regarded as a biliary counterpart of intraductal papillary mucinous neoplasm of the pancreas. IPNBs display a spectrum of premalignant lesion towards invasive cholangiocarcinoma.

The prevalence of IPNB shows wide geographic variation. The highest incidence is reported in Far Eastern countries, probably because hepatolithiasis and clonorchiasis that are believed to be major risk factors of IPNB are endemic. IPNB is relatively rare and comprises 9–38% of all bile duct carcinomas.

OBJECTIVE: To describe a rare variant of intraductal papillary neoplasm of the bile duct (IPNB) with invasive adenocarcinoma.

METHODS: 61-year-old nonverbal female with learning disability presented 7 months previously with jaundice, total bilirubin of 7.3 mg/dl, dilated intrahepatic and extrahepatic bile ducts. Endoscopic Retrograde Cholangiopancreatography (ERCP) was attempted but failed to cannulate the Ampulla of Vater. Jaundice completely resolved a month later. Five months later, she returned with recurrent jaundice with elevated bilirubin to 8. Percutaneous-transhepatic drain was placed. Endoscopic Ultrasound showed choledocholithiasis, a 25 mm dilated common bile duct (CBD) and no evidence of neoplasm in the bile duct, duodenum or pancreas. A laparoscopic cholecystectomy, CBD exploration and possible choledochoduodenostomy were decided on. Intra-operatively, choledochotomy was performed, multiple stones and mucoid material extracted from the supraduodenal bile duct and choledochoscopy showed a distal retroduodenal CBD with intraluminal papillary tumor projections and an inflamed common hepatic duct with no tumor. Frozen section biopsy showed invasive adenocarcinoma. The choledochotomy was closed and cholecystectomy done. Staging Magnetic Resonance Imaging (MRI) showed no evidence of metastasis or vascular invasion. Pancreatoduodenectomy was performed 3 days later. She was discharged on postoperative day 10 in good condition.

RESULTS: The distal CBD tumor measured 3x1x1.5cm. Consisted of IPNB with pT1N0 grade-1 well-differentiated invasive adenocarcinoma. Surgical margins were negative.

CONCLUSION: We are reporting a case of invasive carcinoma in IPNB in a non-verbal patient. Pancreatoduodenectomy after a preceding incidental intraoperative diagnosis was performed. A high index of suspicion on finding intraluminal papillary growths in the distal CBD was key to diagnosis.

POSTER SESSION 6 -- SURGICAL ONCOLOGY

Poster #163

TRANSITION TO A VIRGIN HEPATOBILIARY HOSPITAL – THE SURGEON CAN DRIVE OUTCOME!

E Cho, MD, D Babaniji, A Chapates RN, H Osman MD, D Jeyarajah MD

Presenter: Edward Cho MD

Methodist Health Systems, Dallas, TX

BACKGROUND: Hepato-pancreato-biliary (HPB) surgeries are highly complex and complicated surgical procedures that require a high degree of skill and expertise as well as a multidisciplinary team approach for good patient outcomes.

OBJECTIVE: The aim of this study is to demonstrate that complex HPB cases can be safely performed at a virgin hospital with favorable surgical outcome.

METHODS: A retrospective chart review of 31 patients was completed at a site where HPB surgeries were never performed was completed. Perioperative and postoperative outcomes were measured. All resections were performed by 1 of 2 senior hepatobiliary staff surgeons, each of whom performed either robotic, laparoscopic and open resections.

RESULTS: Between July 2015 and April 2016, 31 patients with mean age of 59 underwent 19 liver resections and 12 pancreatic surgeries. Type of surgery (laparoscopic vs open) as well as perioperative outcomes are listed in Table 1. There were 3 patients with postoperative complications (5.3%) after liver surgery including one postoperative liver abscess. There were 3 patients (25%) with postoperative complications after pancreatic surgery including 2 patients had pancreatic leaks (16%). 30-day mortality was 0% for all groups (Table 1).

CONCLUSION: This study demonstrates that the surgeon with the expertise and experience to perform HPB procedures is the single most important factor in determining patient outcome. In addition, by virtue of performing greater than 15 cases of HPB surgery thus far in one year period, it is safe to say that Methodist Richardson Medical Center can be considered a high volume center.

POSTER SESSION 6 -- SURGICAL ONCOLOGY

Poster #164

BILATERAL ADENOMYOEPITHELIOMA OF THE BREAST

A Idicula MD, MS R Rahman MD, S Graham MD

Presenter: Anceslo Idicula M.D.,M.S.

Texas Tech University Health Sciences Center, Lubbock, Texas

BACKGROUND: Adenomyoepithelioma (AME) first described by Hamperl in 1970, is a rare biphasic neoplastic proliferation of myoepithelial and luminal cells which often displays heterogeneity. AME is considered to be a variant of intraductal papilloma due to the papillary architecture and often times variable histologic findings. The prevalence of this neoplastic process found in the breast is very uncommon; bilateral disease is extremely rare. Although most of these tumors have been known to have benign clinical course, local recurrences, and malignant transformations have been reported.

OBJECTIVE: This case serves to highlight unique findings of bilateral AME with a literature review discussing the clinical approach and treatment management of this uncommon neoplasm.

METHODS: A 53-year-old African American female presented for well women exam with findings of palpable masses in both breasts. A diagnostic mammogram was performed which revealed small asymmetric densities in the anterior third of both breasts. Breast ultrasound (US) revealed a retroareolar nodule in the right breast at 1:00 position and nodule in the left breast at the 5:00 position with US guided biopsy confirming AME bilaterally. Patient underwent US guided wide local excision for bilateral masses with a 1 cm US guided margin. Pathology reported AME on both specimens excised with negative margins and histopathological analysis of the masses showed tumor cells positive for smooth muscle actin with (B14) with no mitoses seen in ten high power fields.

RESULTS: AME of the breast are rare neoplastic process, and with only 2 cases reported with bilateral. AME is most commonly observed in women albeit rare reports of male breast AME exist. The literature reports a wide half century range in age beginning at early 20's, with an greater incidence associated with increasing age. As seen in our patient the tumor may be detected upon clinical exam as a nontender palpable breast mass or on screening mammography. AME tumors are

generally benign, however, approximately 40 cases of malignant variant of AME have been reported in the literature. Further surgical intervention with mastectomy or breast-conserving surgery with radiation and axillary dissection may be indicated for a confirmed carcinoma arising from an AME. Current recommendation for treatment of AME involve complete local excision, and with appropriate margins.

CONCLUSION: The findings of bilateral breast AME is very unique and to the best of our knowledge, this is the first report of treatment via wide local excision bilaterally. Treatment approach must be effectively communicated to the patient with a very small risk of malignant transformation. Currently wide local excision with adequate margins are recommended to prevent local recurrence. Interdisciplinary coordination of patient care between surgeon, pathologist, and medical oncologist must be obtained in order to objectively assess the best course of treatment and to avoid excessive expenditures and use of medical resources.

POSTER SESSION 6 -- SURGICAL ONCOLOGY

Poster #165

USING ENDOSCOPY TO MINIMIZE THE EXTENT OF RESECTION IN THE MANAGEMENT OF GIANT GISTS OF THE STOMACH

Hishaam Ismael MD, FACS, Yury Ragoza DO, Steven Cox MD

Presenter: Yury Ragoza DO

University of Texas Health Northeast, Tyler, Texas

BACKGROUND: The stomach is the most common site for GISTs. Wide local resection to achieve negative margins is the standard of care. Giant GISTs requiring extensive resection are usually managed with neo-adjuvant therapy followed by a partial or total gastrectomy.

OBJECTIVE: To evaluate if intra-operative endoscopy can minimize the extent of gastric resection.

METHODS: We present a case report of a giant GIST on the lesser curvature of the stomach. Neo-adjuvant therapy was administered. Intra-operative endoscopy was used in an attempt to decrease the extent of gastric resection.

RESULTS: After ruling out distant disease, the tumor was mobilized off the left hepatic lobe and dissected free towards the lesser curvature of the stomach. Intraoperative endoscopy demonstrated a 2 mm fistula at the lesser curvature. A stapler was fired to encompass the mass and the fistulous opening. The staple line of resection was evaluated prior to firing to ensure negative margins. The tumor was removed and a frozen section was negative. Endoscopy was used to perform an air-leak test. The patient recovered without complications and was evaluated at 6 months and remains tumor free.

CONCLUSION: Intra-operative endoscopy can reduce the extent of gastric resection for large GISTs while maintaining the oncologic principals of negative margins and minimal tissue handling.

POSTER SESSION 6 -- SURGICAL ONCOLOGY

Poster #166

COMMUNITY THAT PAYS TOGETHER STAYS TOGETHER: SHARING OF RESOURCES IN COLORECTAL CANCER SCREENING AND TREATMENT OF UNDERSERVED POPULATIONS

KE Dowd BS, D Yang BS, A Mishra MD, M Marsh, D Cox, N Aydin MD, Subhasis Misra MD

Presenter: Katie Dowd

Texas Tech University Health Sciences Center School of Medicine, Amarillo, amarillo, tx

BACKGROUND: Bridging disparities to increase colorectal cancer (CRC) screening and treatment can be expensive and time consuming. This insurmountable cost is often what limits care; however, for every \$1 spent on cancer screening \$22.37 is saved on treatment costs and economic benefits. By finding cancer through free screening initiatives for the public, a new problem arises of how to fund further treatment.

OBJECTIVE: Our grant's project goals are to increase screening rates and knowledge about CRC and screening in our medically underserved region. The project provides screening at no cost, but these unfunded patients do not have coverage to treat their cancer diagnosis. Comprehensive screening and treatment for these patients is our ultimate goal.

METHODS: By establishing partnerships with local primary and home health organizations, hospital CEOs, federally qualified health centers, locally elected officials, department of public health employees, and healthcare professionals our project has navigated patients through screening and treatment free of charge by encouraging a community sharing of resources. Community relationships have been nurtured by utilizing quarterly program meetings, educational outreach for providers with CME credit, and cancer symposiums. This outreach provides an open forum to ask for feedback and coordinate care for the community with a primary focus on population healthcare management.

RESULTS: In addition to the many precancerous lesions removed, two cases were identified that needed further cancer treatment. The first patient did not qualify for county indigent clinic care. One private hospital waved the facility fees and we waved the surgeon fees, and the local cancer center agreed to cover adjuvant chemotherapy costs. Another patient was navigated to a local indigent care clinic, with CT scans paid by a nonprofit organization. This patient received surgery at no cost from the surgeon or hospital. These illustrations reflect community involvement in sharing cost for the uninsured.

CONCLUSION: Utilizing cost and resource sharing through patient navigation can lessen the financial burden of caring for uninsured patients. By focusing on community relationships, our project is overcoming limitations to provide comprehensive care for patients.

POSTER SESSION 6 -- SURGICAL ONCOLOGY

Poster #167

DETERMINATION OF OPTIMAL ROUTINE EXCHANGE FREQUENCY TO MINIMIZE COSTS AFTER PERCUTANEOUS NEPHROSTOMY PLACEMENT FOR PATIENTS WITH MALIGNANT URINARY OBSTRUCTION DUE TO GYNECOLOGIC CANCERS

S Acosta-Torres MD, JL McDevitt MD MBA; N Zhang MD, T Hu MD, A Odu MBBS, Y Xi PhD; AK Pillai MD; DS Miller MD

Presenter: Stefany Acosta-Torres MD

University of Texas-Southwestern Medical Center, Dallas, TX

BACKGROUND: Currently there are no evidence-based guidelines to guide optimal routine exchange frequency for patients with percutaneous nephrostomies (PCNs) for malignant urinary obstruction due to gynecologic cancers, and the financial impact of patient compliance is unknown.

OBJECTIVE: To determine the optimal time for routine exchange of indwelling percutaneous nephrostomies in patients with urinary obstruction due to gynecologic malignancies and to quantify the effect of patient adherence to scheduled exchanges.

METHODS: We retrospectively reviewed patients with urinary obstruction due to gynecologic malignancies who underwent placement of PCN that required at least one exchange from 2011-2013. Exchanges were classified as routine or due to one of three complication types: mechanical

(tube dislodgement), obstruction, or infection. Charges for each complication type were defined as the median value from representative cases. The distribution of exchange types under different routine exchange frequencies was estimated with an Accelerated Failure Time Model and average annual PCN-related hospital charges were estimated with a Markov Chain Monte Carlo model.

RESULTS: 33 patients required long-term PCN management, with a total of 57 total exchange encounters. The median representative hospital charges for pyelonephritis and obstruction were 10.6 and 3.1 times greater than a routine exchange, respectively. In our model, the proportion of routine exchanges increased from 25% to 47% and the proportion of infection-related exchanges decreased from 35% to 20% when moving from a 90-day exchange with 50% compliance to a 60-day exchange with 75% compliance, and this was associated with a reduction in annual charges from \$67.3k±\$1.8k to 62.5k±\$2.0k. The projected cost reductions due to increased compliance were generally greater than those due to changes in exchange frequency.

CONCLUSION: Scheduled routine PCN exchanges every 2-3 months is the least costly strategy for patients with malignant ureteral obstruction due to gynecologic malignancies, with exact frequency dependent on the morbidities of complications and patient compliance. Further work will establish a mechanism to ensure regular completion of prospectively scheduled 2-3 month exchanges.

POSTER SESSION 6 -- SURGICAL ONCOLOGY

Poster #168

GERM CELL TUMOR PRESENTING AS NECK LYMPHADENOPATHY WITH UNKNOWN PRIMARY

RA Uhlmann MD, CM Richart MD, DS Davenport MD, S Milov MD

Presenter: Rebecca Uhlmann MD

UTRGV, Edinburg, TX

BACKGROUND: Germ cell tumors are rare neoplasms presenting in gonadal or extragonadal sites, but represent 95% of testicular tumors. Extragonadal germ cell tumors typically arise in the retroperitoneum, mediastinum, and pineal gland, yet cases have been reported in the liver, lung, brain, vagina, nasopharynx, sinonasal tract, orbit, ear, and parotid gland. Neck metastases from testicular germ cell tumors are also rare with an incidence of 5%. Most present on the left due to drainage of the lymphatics from the retroperitoneal nodes to the thoracic duct. Alpha-fetoprotein (AFP) and human chorionic gonadotropin (hCG) levels are used to distinguish between seminomatous and non-seminomatous tumors, as AFP is produced by non-seminomatous germ cell tumors, while hCG may be elevated in both. Lactate dehydrogenase (LDH) levels are elevated in some men and used as part of the assessment for risk stratification prior to chemotherapy.

OBJECTIVE: To describe an unusual case of a germ cell tumor identified in right-sided neck lymphadenopathy without a known primary at this time and absent testicular disease.

METHODS: Case report with review of the literature and patient's chart including laboratory and imaging data.

RESULTS: Patient is a 31 year-old male who presented to clinic in September 2016 with a 1-year history of fluctuating neck mass, no significant medical history, and recent alcohol and smoking cessation within the previous month. The patient has palpable lymphadenopathy at levels 4 and 5 with some induration and a clear nasopharynx. CT neck demonstrated necrotic nodes at level 5A and 5B with adenopathy at levels 1B, 2A, and 3. CT chest demonstrated prevascular adenopathy measured as 1.4 x 1.4cm and proximal right cervical chain adenopathy measured as 1.4 x 1.8cm. CT of the abdomen and pelvis, CXR, and scrotal ultrasound were negative. PET scan demonstrated hypermetabolic right cervical and perivascular lymph nodes with an otherwise negative mediastinum, abdomen, and pelvis. Biopsy of two lymph nodes (1 cervical, 1 supraclavicular) was performed and pathology demonstrated a poorly-differentiated malignant tumor with extensive

necrosis. In addition, neoplastic cells stained positive for cytokeratin oscar, OCT4, SALL4, and CD117, and negative for B-hCG; thus, it was classified as a metastatic germ cell tumor not otherwise specified. Serum markers are: AFP 2.3 (normal <7.4), B-hCG <0.6 (normal <1.4), and LDH 167 (normal 140-271).

CONCLUSION: This case represents an unusual presentation of an extragonadal germ cell tumor of unknown primary site as a fluctuating neck mass. Identity of the primary site remains unknown. The patient currently is undergoing neoadjuvant chemotherapy with four cycles of EP (etoposide, cisplatin). A cisplatin-based regimen is standard for germ cell tumors due to its high eradication rate of metastatic disease.

POSTER SESSION 6 -- SURGICAL ONCOLOGY

Poster #169

THE IMPACT OF BODY MASS INDEX ON SURGICAL OUTCOMES OF TOTAL LAPAROSCOPIC RADICAL HYSTERECTOMY IN WOMEN WITH EARLY STAGE CERVICAL CANCER

BM Roane MD, DB Manders MD, B Hoffman, DS Miller MD, JS Lea MD

Presenter: Brandon Roane MD

University of Texas Southwestern University - Dallas, Dallas, Tx

BACKGROUND: Radical hysterectomy with pelvic lymphadenectomy is an option for definitive management of early-stage cervical cancer. It is the preferred approach for women with cervical cancer who are appropriate surgical candidates and wish to preserve ovarian and sexual function. Radical hysterectomy may also be performed as definitive management of endometrial or uterine cancer that grossly involves the cervix. Traditional radical hysterectomy is typically performed by laparotomy. Although various studies have reviewed oncologic and post-operative outcomes with TLRH, further studies are needed, and especially ones studying outcomes in obese patients. During laparoscopy, obesity makes peritoneal entry more difficult, limits the amount of tolerated Trendelenburg positioning, and reduces visualization of pelvic and abdominal anatomy. These contribute to obesity being a significant factor for aborting a laparoscopic approach and converting to laparotomy. To date, most study cohorts have had a median BMI < 30 kg/m². The objective of our study was to review our institution's experience with TLRH and compare surgical outcomes in ideal body weight, overweight, and obese patients.

OBJECTIVE: We sought to review our experience with total laparoscopic radical hysterectomy (TLRH), comparing surgical outcomes in women with ideal, overweight, and obese body mass indices (BMI).

METHODS: We reviewed records from all TLRHs performed at our institution between 6/2012 and 2/2016. Comparison among groups was performed using single factor Analysis of Variance (ANOVA) or Fisher's Exact Test, with P values < 0.05 considered statistically significant.

RESULTS: We reviewed records from all TLRHs performed at our institution between 6/2012 and 2/2016. Comparison among groups was performed using single factor Analysis of Variance (ANOVA) or Fisher's Exact Test, with P values < 0.05 considered statistically significant.

CONCLUSION: TLRH in overweight and obese women did not confer increased operative or postoperative morbidity relative to women with normal BMI. TLRH should be considered in overweight and obese patients requiring radical hysterectomy.

POSTER SESSION 6 -- SURGICAL ONCOLOGY

Poster #170

VALUE OF FOCUS GROUP IN HIGH RISK POPULATION FOR MELANOMA IN ASSESSING KNOWLEDGE, BELIEFS, AND BARRIERS TO SKIN PROTECTION

M Marsh, D Yang BS, D Cox, N Aydin, MD, S Misra, MD

Presenter: Derek Yang BS

Texas Tech University Health Sciences Center, Amarillo, TX

BACKGROUND: The Texas Panhandle has a high incidence of melanoma, 21.5 vs 14.1/100,000 for the state, and mortality rate almost twice the national average of 5.2 vs 2.7/100,000. Reducing incidence and improving outcomes begins with patient education tailored to the population's attitudes and beliefs.

OBJECTIVE: The objective of this study was to conduct and report focus group results designed to shed light on educational deficiencies surrounding melanoma protection.

METHODS: A focus group of 12 diverse individuals ages 16-69 years old was conducted. Participants took a short questionnaire [table 1] to assess their knowledge and sun protection practices before group discussion. Open-ended questions revealed their understanding of skin screening, sun protection, and risk factors.

RESULTS: The group included nine females, three ages 16-25, and four over 50. The older group voiced lack of education during their youth, the younger group stated no melanoma concerns, and the middle-aged group was most concerned. Women rely solely on makeup to provide protection. One was a single mom, one a melanoma survivor, and three never had any type of skin exam. Seven said they do not look at their sunscreen for UVA and UVB protection or expiration date. Three actively tanned and were defensive and resistant to hearing the harmful effects of tanning. Paradoxically, one teen checks the UV index for higher values before tanning. After the education, the group, including active tanners, thought it was unethical for gyms to offer unlimited tanning with membership.

Participants cared more about appearance than skin protection, with only four protecting their skin daily. The single mom said cost of sunscreen is a barrier. The melanoma survivor stated, "my scars remind me to protect my skin," while another participant stated, "you don't die from melanoma." There was an overall lack of understanding about melanoma, excessive sun exposure, and harmful effects of tanning beds.

CONCLUSION: The lack of awareness and education in the community contributes to high rates of melanoma. Focus groups are critical in assessing baseline community knowledge, beliefs, and addressing barriers for skin cancer prevention.

POSTER SESSION 6 -- SURGICAL ONCOLOGY

Poster #171

CANCER SYMPOSIUM IN THE RURAL SETTING

N Aydin MD, M Preston MS-3, K Dowd, MS-4, S Misra MD

Presenter: Nail Aydin M.D., FACS, FACCWS

Texas Tech University Health Sciences Center-Amarillo, Amarillo, TX

BACKGROUND: Comprehensive oncology care in rural setting has a unique set of challenges, including large patient populations, inadequate oncology workforce, difficult access to oncology care, educational deficiencies, and underprivileged financial status. There is higher percentage and likelihood of rural patients dying from cancer. The first step in improving care of cancer patients in rural communities begins with better communication, education, and building strong teams which will equip the oncology providers with knowledge and tools for basic oncology screening, coordination of care, and will raise awareness about local challenges and community resources.

OBJECTIVE: To report our symposium model and experience from the first regional oncology symposium which gathered many health care providers to discuss local challenges and overall status of cancer care in the Panhandle area of Texas. We recruited speakers from hospital administration, local primary care providers, pharmacists, nutritionists, nurses and oncology providers including medical, surgical and radiation oncologists. The symposium provided updates in cancer screening, focused on the challenges that the practicing and training health care professionals face on day to day basis. We compared our local cancer care to the national standards, and reviewed available resources, and deliberate ways to improve bridging gaps between providers with the aim to educate, update and improve dialogue and communication among the providers.

METHODS: We did a retrospective review of our model to assess its success, using surveys given at the end of the event.

RESULTS: There were 85 registrants and only 75 attended the symposium. 52 of the attendees filled out a survey given after the symposium. This survey rated several aspects of each talk given, and the conference in general. When asked about how useful the info presented was to their practice, 97% responded favorably. On the whole, 69% of responders chose the highest rating on any given question. Comments from the survey were overwhelmingly positive and multiple attendees noted they learned of resources in the community that they could pass on to their patients. The participants eagerly requested annual repetition of the symposium.

CONCLUSION: This first symposium initiated dialogue among the care providers leading to raise in awareness about local challenges and recognition of resources. It helped set short and long term community goals in local cancer care. We immediately noticed improvement in collaboration in both the hospital and the clinical setting. We believe our symposium model can help improve cancer care in similar rural settings. With this model, we hope to help establish better centralization of cancer care in rural settings.

POSTER SESSION 6 -- SURGICAL ONCOLOGY

Poster #172

OUTCOMES IN PATIENTS UNDERGOING METASTASECTOMY FOR SOLID ORGAN MALIGNANCIES

N Arita MD, E Vo MD, E Silberfein MD, C Hsu MD

Presenter: Cary Hsu MD

Baylor College of Medicine, Houston, TX

BACKGROUND: Systemic therapies are well-established in the management of metastatic solid organ malignancies. The role of surgery for these patients is limited and not well defined. Infrequently, patients with metastatic disease undergo elective surgical resection with palliative or therapeutic intent, however the efficacy and safety of such procedures is largely unknown. We examined the outcomes of a cohort of patients with metastatic solid organ malignancies who have undergone surgical metastasectomy.

OBJECTIVE: Assessment of the safety and efficacy of surgery for metastatic solid organ malignancies.

METHODS: We retrospectively queried our prospectively maintained surgical oncology database for all patients undergoing metastasectomy for solid organ malignancies between 2010 and 2016. Patients undergoing hepatic resection for isolated colorectal cancer metastases were excluded. 30-day morbidity, disease free survival (DFS) and overall survival (OS) were calculated.

RESULTS: Nineteen patients underwent metastasectomy with either therapeutic or palliative intent. Most commonly (47%), the malignancy was of gastrointestinal origin. Surgery was for isolated metastases in 47% of patients. The site was local recurrence in 16% and distant disease in 84% of patients. Mean followup was 16.8 months. The overall 30-day morbidity was 42% with 9 complications occurring in 8 patients. All but 2 complications were Clavien-Dindo class I or II. There were no 90-day mortalities. Nine of 15 patients (60%) who had all sites of metastatic disease resected developed recurrent disease during the study period. Median time to recurrence was 2.4 months. Four of 19 patients (21%) in the entire cohort died during the study period. Overall survival was approximately 85% at 24 months for the entire cohort (fig. 1).

CONCLUSION: Metastasectomy with curative or palliative intent can be performed with low morbidity and mortality for carefully selected patients with advanced solid organ malignancies. Although early recurrence of disease is frequent, overall survival is relatively favorable for this cohort. Metastasectomy can be considered as an adjunct to established treatment options in this patient population, but longer followup will be necessary to see if a subset of patients derives long-term benefit from such interventions.

*****Posters #173-#178 will be on Kiosk #5*****

POSTER SESSION 5 -- SUBSPECIALTIES

Poster #173

MIGRATION OF 2 VENTRICULOPERITONEAL SHUNT CATHETERS TO THE SCROTUM: USE OF AN INGUINAL INCISION FOR RETRIEVAL, DIAGNOSTIC LAPAROSCOPY AND HERNIA REPAIR

C Ricci MD, BM Velimirovic MD, TN Fitzgerald MD, PhD

Presenter: Caesar Ricci MD

Texas Tech UHSC El Paso, El Paso, TX

BACKGROUND: Ventriculoperitoneal shunts are commonly used in the treatment of hydrocephalus, and catheter migration to various body sites has been reported. Pediatric and general surgeons are asked on occasion to assist with intraabdominal access for these shunts, particularly when there may be extensive adhesions or other complicating factors.

OBJECTIVE: We describe a case in which an old shunt catheter was never removed from the abdomen, and it migrated through an inguinal hernia into the scrotum.

METHODS: The catheter became entangled and fibrosed to the testicle. A second and more recent shunt catheter was also in the scrotum. A single incision in the inguinal region was used to remove both shunt catheters, repair the inguinal hernia and perform diagnostic laparoscopy to assist in placing a new ventriculoperitoneal shunt.

RESULTS: Prompt surgical removal is recommended for catheters remaining in the abdomen after ventriculoperitoneal shunt malfunction. These catheters may cause injury to the testicle, or possibly other intraabdominal organs. General or pediatric surgical consultation should be obtained for lost catheters or inguinal hernias.

CONCLUSION: In the case of an inguinal hernia containing a fractured shunt catheter, the hernia sac can be used to remove the catheter, repair the hernia and gain laparoscopic access to the abdomen to assist with shunt placement.

POSTER SESSION 5 -- SUBSPECIALTIES

Poster #174

CHRONIC OSTEOMYELITIS OF THE STERNOCLAVICULAR JOINT FOLLOWING A COMMON PLASTIC SURGERY PROCEDURE: DIAGNOSIS, SURGICAL MANAGEMENT AND CONSIDERATIONS

VJ Hassid MD, B Sepesi MD

Presenter: Victor Hassid MD, FACS

UT MD Anderson Cancer Center, Houston, TX

BACKGROUND: The occurrence of sternoclavicular joint osteomyelitis is related more commonly to indwelling hemodialysis catheters, diabetes, and immunosuppression. Appropriate management of this pathology includes timely diagnosis and multidisciplinary evaluation and treatment.

OBJECTIVE: We report the rare case of chronic osteomyelitis of the sternoclavicular joint following breast augmentation, in order to emphasize the incidence of this complication, along with the need for accurate diagnosis and appropriate surgical management.

METHODS: A case of chronic osteomyelitis of the sternoclavicular joint following breast augmentation that was treated surgically by both thoracic and plastic surgery services was analyzed. Patient symptomatology, physical examination findings, imaging modalities used, surgical plan and recovery details were reviewed.

RESULTS: A 55-year-old female presented with painful right sternoclavicular joint destruction secondary to osteomyelitis, following subpectoral saline breast augmentation. The patient was previously treated for 2 separate episodes of right breast infection necessitating implant removal. Appropriate antibiotics were administered based on culture results. Following physical examination and appropriate imaging studies, the differential diagnosis included chronic osteomyelitis, desmoid tumor and osteosarcoma. Core needle biopsy did not reveal malignancy or presence of micro-organisms. Thoracic surgery performed débridement of chronically inflamed and infected tissues via partial manubriectomy, proximal claviclectomy, and partial resection of the proximal first rib. The resulting surgical defect was covered with an ipsilateral rotational pedicled pectoralis major muscle flap, by Plastic and Reconstructive surgery. Appropriate antibiotics were administered based on intra-operative cultures. Patient recovered uneventfully.

CONCLUSION: Chronic osteomyelitis of the sternoclavicular joint requires timely diagnosis and appropriate multidisciplinary care. In case of surgical management, cooperation between the thoracic and plastic surgery services is necessary in order for necrotic tissue to be adequately and safely debrided and the resulting defect to be reconstructed with well vascularized tissue, which will optimize recovery and antibiotic delivery.

POSTER SESSION 5 -- SUBSPECIALTIES

Poster #175

INTERESTING CASE OF AMYAND'S HERNIA IN PRE-MATURE NEONATE

Y Gao MD, A Leal MD, T McGill MD

Presenter: Yue Gao MD

Texas Tech Health Sciences Center, Lubbock, TX-Texas

BACKGROUND: Repair of inguinal hernias is one of the most commonly performed pediatric surgical procedures. Often the diagnosis of inguinal hernia is based on history and physical exam. Inguinal hernia is approximately ten-fold more common in males versus females, with the right side developing hernia three times as often as the left side. The presence of Amyand's hernia (vermiform appendix in hernia sac) represents approximately 1% of all inguinal hernia.

OBJECTIVE: Amyand's hernia is a rare condition that is often diagnosed operatively. Due to the rarity of the condition, agreement of the standard of care has yet to be determined.

METHODS: Patient is a 4 week old premature male born at 27 weeks gestation. While in the Neonatal Intensive Care Unit (NICU), he was noted to develop a mass in the right inguinal region with erythema and enlargement to right scrotum. Ultrasound reported concern of chronic right epididymitis. Pediatric Surgery was consulted for evaluation after patient developed concern of ileus and a magnetic resonance imaging (MRI) suggested finding of bowel in the right scrotum. The diagnosis of incarcerated inguinal hernia was proposed. Patient was taken to the operating room and the hernia sac was found to contain an ischemic appendix. Pathology report confirmed our specimen to be necrotic appendicitis.

RESULTS: Clinical presentation of Amyand's hernia vary depending the severity of the inflammatory changes to the appendix. Physical examination most commonly reveals swelling of the involved groin along with tenderness, pain, and fever. Diagnosis of Amyand's hernia is often made at operation. Imaging studies are not routine in the evaluation of inguinal hernia. The use of ultrasound has, however, has been helpful in diagnosis by differentiating a hernia from other abdominal structures and perform real time monitoring. The use of computed tomography (CT) is considered excessive due to the radiation exposure and questionable utility in the treatment decisions.

Treatment of Amyand's hernia is centered on appendectomy and hernioplasty. Management guidelines proposed by Basson stratified the treatment options in adults based the condition of the appendix along with concomitant intra-abdominal pathologies. A paper published by Cigar examined cases of Amyand's hernia in pediatric population, recommended the decision of performing appendectomy versus appendicular reduction based on the findings of the whether the appendix showed inflammatory changes. The desire for preservation of the appendix was secondary to possibility of the using the appendix for later procedure such as urinary diversion or urethral patching.

CONCLUSION: Formulation of the treatment regimen of Amyand's hernia in pediatric population has to be determined. Despite the rarity of this disease, the inclusion of the Amyand's hernia should be entertained in differential diagnosis, especially in neonates with unilateral scrotal swelling.

POSTER SESSION 5 -- SUBSPECIALTIES

Poster #176

INTERESTING CASE OF AN ISOLATED SUPERIOR MESENTERIC ARTERY DISSECTION

Y Gao MD, D Santana MD

Presenter: Yue Gao MD

Texas Tech Health Sciences Center, Lubbock, TX-Texas

BACKGROUND: Isolated dissection of superior mesenteric artery (SMA) is a rare and potential fatal condition. Among the reported cases of dissection of the visceral vessels, the superior mesenteric artery is the most common. Dissection involving the visceral vessels is commonly an extension of an aortic pathology. However, due to increase use computed tomography (CT) and CT angiography (CTA), the detection of isolated visceral vessel dissection has increased.

OBJECTIVE: Due to the rarity of SMA dissection, recommendation regarding management of this disease is still under debate with further studies required.

METHODS: 57 year old male presented to local emergency department with abdominal pain and distention. His abdominal discomfort started the morning prior to presentation. Patient underwent computed tomography (CT) which found isolated dissection of his SMA. Patient was subsequently transferred to our facility and an angiogram was performed, confirming a mid-SMA dissection without any filling defects or hindrance to flow. The SMA was patent distally without signs of

extension of dissection or findings consistent with distal embolism. Patient was placed on heparin drip and eventually discharged on Coumadin.

RESULTS: Isolated dissection of visceral arteries without involvement of aorta is uncommon. The most commonly involved visceral vessel is the SMA. Proposed etiologies for dissection include cystic medial necrosis, fibromuscular dysplasia, and atherosclerosis. From a biomechanical standpoint, the location of the involved SMA from the ostium stipulate that the dissection could be a result of shear stress caused on the anterior aspect of the arterial wall as the fixed part of the SMA transitions to the mobile distal segment as the artery travels beyond the inferior edge of the pancreas. Clinical presentation of this disease is commonly with abdominal pain, nausea, vomiting, and abdominal distention. Choice of imaging modality for this disease has evolved towards the use of contrast enhanced CT. CT allows the clinician not only to diagnose but also to perform follow up on the progression of the disease. The first surgical treatment was described in 1975 by Sisteron and Vieville. Over the years, management of this disease have evolved into conservative treatment with anticoagulation. Currently, treatment of the SMA dissection fall into either conservative, endovascular, or surgical modalities. Various guidelines have delineated treatment proposals with the first major decision for conservative versus surgical treatment based on the suspicion of bowel ischemia, infarct and/or arterial rupture.

CONCLUSION: Increased reporting of SMA dissection has helped clinicians form better treatment protocols for this disease. Conservative management has been shown to be a viable option for the majority of cases of SMA dissection. Further data are required to improve the management of this disease.

POSTER SESSION 5 -- SUBSPECIALTIES

Poster #177

AN INTERESTING CASE OF PAGET-SCHROETTER SYNDROME AND TREATMENT

Y Gao MD, H Ahmed MD, D Santana MD

Presenter: Yue Gao MD

Texas Tech Health Sciences Center, Lubbock, TX-Texas

BACKGROUND: The diagnosis of Paget-Schroetter syndrome (PSS) or effort thrombosis, is rare among the general population. It is a condition characterized by venous thrombosis of the upper extremity. Delay in diagnosis can result in severe life-threatening complications. Surgical intervention is recommended for resolution of this condition.

OBJECTIVE: The rarity of the Paget-Schroetter syndrome can lead in the delay in diagnosis with grave implications to the patient. Clinicians need to be aware of the diagnosis and initiate the proper course of treatment.

METHODS: 23 year old male presented to our hospital after development of sudden right arm swelling and skin changes. He is fit and muscular and reported a sensation of pressure and swelling of his right arm that day. While performing bench press exercises, patient noted increase of his swelling and pressure along with color change. Patient was evaluated and taken for a venogram and started on tissue plasminogen activator (TPA) infusion. Next day, patient underwent angioplasty and mechanical thrombectomy. Repeat venogram revealed persistent wall thrombus, hence he was taken back for right subclavian vein thrombectomy with patch angioplasty and subclavius muscle resection. Patient recovered uneventfully and was discharged home on Xarelto.

RESULTS: The diagnosis of PSS falls under the umbrella of Thoracic outlet syndrome (TSS). TSS is comprised of three variations: neurogenic, venous and arterial. PSS falls into the venous subgroup. This condition is commonly associated with a history of strenuous exercise and repetitive movements in approximately 60 to 80% of cases. It is hypothesized that hyper-abduction and extension of the arm result in significant strain on the subclavian vein, resulting in micro-trauma of the endothelium and activation of the coagulation cascade. Patients with Paget-Schroetter syndrome are usually symptomatic. Swelling and arm discomfort are the most frequent presenting symptoms. Diagnosis of PSS can be confirmed first by ultrasound. Venography is considered the standard in diagnostic imaging, however has been supplanted by less non-invasive studies. Treatment is centered on surgical modalities as nonsurgical treatment has been shown to be ineffective. The surgical treatment is frequently achieved with thrombolysis with decompression of the costoclavicular junction by first rib resection. Questions regarding the need for decompression of the bony thoracic outlet has been raised. Johansen in a series of 50 patients who underwent thrombolysis and anticoagulation have demonstrated at mean follow up of 57 months that 82 percent were asymptomatic and 10 percent with only mild symptoms. Anticoagulation is recommended for 3 to 6 months post-surgery.

CONCLUSION: Paget-Schroetter syndrome is a complex and rare condition. Further research should focus on defining the need for thoracic decompression and identify factors that influence success of thrombolytic therapy.

POSTER SESSION 5 -- SUBSPECIALTIES

Poster #178

INITIAL CONSERVATIVE MANAGEMENT OF PEDIATRIC BLUNT AORTIC INJURIES APPEARS SAFE

Lucyna Ciecura, MD, Atish Chopra, MD, Ruth E Jones, MD, J Gregory Modrall, MD, FACS, R James Valentine, MD, FACS, Shellie Josephs, MD, Jayer Chung, MD, MSc, FACS

Presenter: Ruth Ellen Jones, MD

UT Southwestern, Dallas, Texas

BACKGROUND: Pediatric traumatic blunt abdominal aortic injury (BAI) that occurs secondary to lap belt restraint use in a motor vehicle collision (MVC) is uncommon. Data regarding the incidence, contemporary management, and outcomes of these injuries is scarce.

OBJECTIVE: We investigated national epidemiologic data and management trends for pediatric BAI as well as our institutional cohort of patients with BAI from lap belt restraint use.

METHODS: A review of the National Trauma Data Bank (NTDB) for patients aged ≤ 19 years from 2007-2014 was performed. International classification of diseases and procedure codes were used to identify BAI and therapy type. A single-center, retrospective review of patients aged ≤ 19 years with BAI from MVCs associated with lap belt restraint use from October 2004-May 2015 was also performed. Linear regression was performed with GraphPad Prism version 5.03 (GraphPad Software, La Jolla, CA, USA).

RESULTS: NTDB review included 5,850,801 patients. There were 69 BAIs resulting from MVCs, yielding an incidence of 0.007%. The median age was 15 and 46 (73%) were male. Open repair was performed in 11 patients (17.4%) vs. endovascular therapy was used in nine (14.3%) vs. non-

operative treatment in 43 patients (68.3%). There was an overall mortality of 3.2% with a non-significant trend towards reduction in mortality over time. Our institutional review identified five patients with BAI associated with lap belt use in an MVC. The median age was 12.6 (IQR 11, 13), three were males (60%) and the median injury severity score was 42.4 (IQR 34, 43). All had associated lap belt restraint use and suffered injuries immediately above the aortic bifurcation diagnosed with computed tomography imaging. Four (80%) patients had associated vertebral fractures. Two patients were managed conservatively with pulse pressure control and aspirin therapy with had spontaneous resolution of their injuries. One patient underwent aortic endarterectomy with bovine patch for the development of an intimal flap and another one underwent initial heparin therapy endovascular aortic repair with a Gore® Excluder® device (16x14.5x7cm) for an enlarging pseudoaneurysm. One patient developed an enlarging right common iliac artery aneurysm and underwent a delayed open repair with hypogastric artery. All repairs have remained patent and there were no mortalities. Median duration of hospital stay was 25 days (IQR 10, 44) with an ICU length of stay of 8.4 days (IQR 5, 12). Median follow-up was 330 days (IQR 185, 416).

CONCLUSION: A variety of treatment modalities are currently being utilized for the management of pediatric BAI. The approach to management must be tailored to the individual patient's aortic pathology and guided by surveillance imaging.

*****Posters #179-#186 will be on Kiosk #6*****

POSTER SESSION 6 -- SUBSPECIALTIES

Poster #179

REMOTE PATIENT MONITORING AFTER WEIGHT LOSS SURGERY IN ADOLESCENTS

FG Qureshi MD, G O'Neill PA-C, LS Burkhalter MPH, GP Wools BA, FB Fike MD

Presenter: Faisal Qureshi MD

University of Texas Southwestern Medical Center, Dallas, TX

BACKGROUND: Careful monitoring of patients undergoing weight loss surgery is critical for early identification of post-operative issues, to follow adherence with dietary recommendations and, to track weight loss and comorbid condition resolution. Such monitoring requires multiple points of contact via clinic appointments, telephonic, and electronic communication. This is time consuming, labor intensive and represents greater challenges in an adolescent population.

OBJECTIVE: We describe early efforts of remote patient monitoring (RPM) systems in adolescents after weight loss surgery.

METHODS: In partnership with Vivify Health[®] patients were provided with a weigh scale, pulse oximeter and blood pressure cuff, all of which connect to an internet (LTE) enabled tablet. Patient responses to relevant questions are recorded daily into the tablet which automatically uploads to a secure website and the electronic health record Triggers based on subjective and objective parameters were developed to alert providers with abnormal data responses. Patients could request provider contact at any time. IRB approval was obtained.

RESULTS: 11 patients were given the RPM system for use after laparoscopic sleeve gastrectomy (March-August 2016). Patients were instructed to use the device daily and the device alerted if not done so. Patients answered questions regarding their adherence with diet and exercise. They manually entered blood glucose levels while weight, pulse, and blood pressure were automatically uploaded (Table 1). Overall daily compliance was only 61% (5-84%) with tapering off to below 50% by week 14. Reasons for non-compliance cited were technical (charger not working, LTE not connecting) and personal (we forgot, forgot to charge). Providers were alerted with abnormal data twice, once for elevated heart rate and once for elevated blood pressure. Two requests for providers to contact patients were made, one for severe nausea requiring admission. Providers logged in to the Vivify Health[®] portal daily to monitor patient progress.

CONCLUSION: 11 patients were given the RPM system for use after laparoscopic sleeve gastrectomy (March-August 2016). Patients were instructed to use the device daily and the device alerted if not done so. Patients answered questions regarding their adherence with diet and exercise (table 1). They manually entered blood glucose levels while weight, pulse, and blood pressure were automatically uploaded. Overall daily compliance was only 61% (5-84%) with tapering off to below 50% by week 14. Reasons for non-compliance cited were technical (charger not working, LTE not connecting) and personal (we forgot, forgot to charge). Providers were alerted with abnormal data twice, once for elevated heart rate and once for elevated blood pressure. Two requests for providers to contact patients were made, one for severe nausea requiring admission. Providers logged in to the Vivify Health[®] portal daily to monitor patient progress.

POSTER SESSION 6 -- SUBSPECIALTIES

Poster #180

NOT ALL CONTACTS ARE CREATED EQUAL: AN UNRECOGNIZED CAUSE OF REACTIVE LYMPHOID HYPERPLASIA

HV Broyles MSIII, RE Swann MD

Presenter: Heather Broyles MSIII

Brazos Eye Surgery of Texas, Waco, TX

BACKGROUND: Circle contact lenses are a type of cosmetic contact lens that have become popular for making one's eye appear larger. They are easily purchased online without the need for a prescription or fitting from a licensed provider. The majority of these lenses are manufactured overseas, and do not have the stringent standard requirements as in the U.S. Recent evidence has shown that people who acquire these lenses from unauthorized vendors have an increased risk of experiencing vision-threatening infections and inflammation due to poor quality control by foreign manufacturers, in addition to lack of education, supervision, and compliance with proper usage.

OBJECTIVE: Increase awareness of complications that can arise from poor quality control of cosmetic contact lenses from foreign unregulated manufacturers.

METHODS: CASE REPORT: A 24-year-old woman presented to clinic with a painless, left nasal sub-conjunctival mass. The mass appeared tan-brown, and resembled eyelid lymphoma. Patient reported wearing circle contact lenses purchased online through a popular website that sells foreign made cosmetic lenses, and does not require a valid prescription or physician oversight. The mass was treated by excisional biopsy done in the office. Histopathological examination revealed the diagnosis of reactive lymphoid hyperplasia with abundant pigmented histiocytes and plasma cells. The patient was advised to discontinue wearing cosmetic lenses obtained online from unauthorized vendors.

RESULTS: N/A

CONCLUSION: The unauthorized sale of foreign made cosmetic contact lenses can have severe implications on ocular health. A large number of online vendors do not adhere to the proper protocol for manufacturing lenses, or instruct their customers on appropriate lens use and care. Our case shows pathological evidence of ocular inflammation and possible cytotoxic effects to the cornea as a result of poor lens quality. This suggests an increased need for regulatory changes in the manufacturing of foreign cosmetic contact lenses.

POSTER SESSION 6 -- SUBSPECIALTIES

Poster #181

SIGNIFICANT DISCREPANCIES BETWEEN MEDICARE AND MEDICAID REIMBURSEMENTS FOR LIMB PRESERVATION PROCEDURES ACROSS TEXAS

N Zamani MD, S Sharath MPH, NR Barshes MD MPH

Presenter: Nader Zamani MD

Baylor College of Medicine, Houston, TX

BACKGROUND: Peripheral arterial disease and diabetes-related non-traumatic lower extremity amputations have profoundly negative impacts on patient quality of life. Surgeon reimbursement has been recognized as one of many factors that can affect patient treatment plans, and recent nation-wide analyses have highlighted striking discrepancies between Medicare (MCR) and Medicaid (MCD) reimbursement schedules.

OBJECTIVE: The purpose of this study is to identify and describe state-wide differences in MCR and MCD reimbursements and assigned relative value units (RVUs) of limb preservation procedures as compared to major lower extremity amputations.

METHODS: A list of the most frequently performed procedures related to the diagnosis and care of lower extremity vascular disease was generated. Publically available 2016 Medicare and Medicaid reimbursement schedule data was obtained through the Centers for Medicare and Medicaid Services as well as the Texas Medicaid & Healthcare Partnership, respectively. Texas-specific, facility and non-facility reimbursement schedules were gathered for each procedure CPT code.

RESULTS: 51 unique procedures were stratified into five categories: diagnostic angiography (n = 3), endovascular interventions (n = 4), open infrainguinal procedures (bypasses/endarterectomies; n = 12), major amputations (n = 5), and foot care/reconstructions (debridements, toe/transmetatarsal amputations, skin grafting; n = 27). Facility and non-facility reimbursements by MCD are consistently 24% lower among all categories, except for diagnostic angiography for which MCD payments are 10% lower in the non-facility setting. In addition, the relative value of each procedure category, defined as payment per RVU (\$/RVU), ranges from 25–61% less by MCD across all interventions, with the greatest discrepancies directly impacting foot care and reconstruction procedures. These reimbursement and evaluation discrepancies directly translate into significant mean absolute differences. The largest facility difference is among infrainguinal open interventions for which MCD reimburses \$331 less per procedure (p=0.007, Figure 1) compared to lower extremity amputations where MCD under-reimburses by \$185 (p=0.047). For procedures amenable to non-facility performance (all except major amputations and bypasses/endarterectomies), the greatest mean absolute difference in reimbursement impacts endovascular interventions for which MCD reimburses \$1,616 (p=0.387) less per procedure.

CONCLUSION: There are clear and varied discrepancies between the reimbursement schedules of Medicare and Medicaid among vascular surgery interventions. Further, these discrepancies differentially impact procedures related to limb preservation. Currently, Medicaid payments relatively favor major amputations over revascularization, a finding that has significant and profound implications for all patients seeking care for diabetes and peripheral arterial disease.

POSTER SESSION 6 -- SUBSPECIALTIES

Poster #183

RESULTS OF A NEW ONABOTULINUMTOXINA (BOTOX) INJECTION PARADIGM FOR THE TREATMENT OF MIGRAINE HEADACHES: ANATOMICAL, REGIONAL, AND TARGETED

M Chung BS, K Sanniec MD, B Amirlak MD

Presenter: Michael Chung BS

University of Texas Southwestern Medical Center, Dallas, TX

BACKGROUND: Migraine headaches, a serious debilitating disease with no complete cure, affect 37 million people in the US. OnabotulinumtoxinA (BOTOX) is an effective prophylactic treatment for chronic migraines, established by the Phase III Research Evaluating Migraine Prophylaxis Therapy (PREEMPT) landmark trials. According to recent neurology studies, BOTOX acts directly on nerves. The PREEMPT injection protocol is a shotgun approach targeting broad muscle groups, and no alternative injection technique has been studied for improvements in safety, efficacy, and efficiency. The Anatomical, Regional, and Targeted (ART) injection paradigm was designed based on knowledge of precise nerve locations.

OBJECTIVE: In this study, results of the ART injection paradigm are analyzed for changes in frequency, duration, and severity of migraine symptoms. We measure efficacy, efficiency, and tolerability in comparison to PREEMPT.

METHODS: This study retrospectively reviewed 89 patients who underwent ART injection at UT Southwestern, each with previous failure of traditional medications. Of this group, 14 were excluded due to lack of follow-up, confounding treatments, or lack of migraine diagnosis. Based on rigorous patient interview, measures were defined with frequency, duration, and severity.

RESULTS: ART BOTOX injection resulted in significant reduction of all three measures ($p < 0.001$), including mean reductions of 15.0 headache days per month, 5.0 points on a 1-10 severity scale, and 0.65 days in duration of headache episodes. 28% experienced non-serious treatment-related complications, which is comparable to the PREEMPT rate of 29%. On average, 118 units were injected. 45% had complete elimination of symptoms, and 80% had at least 50% reduction in frequency of headache days.

CONCLUSION: ART is effective in reducing frequency, duration, and severity of migraine headaches. In comparison, the PREEMPT studies demonstrated a mean reduction of just 8.4 headache days using a minimum of 155 units. Although not a side by side comparison, this study suggests that ART injection may be more effective and efficient. Further research involving a large prospective study is required to strengthen these results.

POSTER SESSION 6 -- SUBSPECIALTIES

Poster #184

SUPERFICIAL VENOUS DISEASE TREATMENTS IN A VETERAN POPULATION: A SINGLE CENTER 8 YEAR EXPERIENCE

AT Laux MD; T Williams PA-C; BE Lenhan BS; LL Pounds MD

Presenter: Anne Laux MD

UTHSCSA, San Antonio, Texas

BACKGROUND: Venous disease is known to be more prevalent than arterial disease in the general population. The Veteran population is presumed to have large burden of aneurysmal and arterial occlusive disease, but chronic venous disease and treatments have not been extensively studied.

OBJECTIVE: To determine the incidence of superficial venous disease in a Veteran population

METHODS: Records were reviewed for an eight-year period at a single academic affiliated Veteran's Hospital. Cases were identified from January 1, 2009 to March 31, 2016 by CPT codes: 36475 (radiofrequency ablation first vein), 36476 (radiofrequency ablation second vein), 37765 (phlebectomy 10-20 incisions), 37766 (phlebectomy more than 20 incisions, and 36471 (sclerotherapy multiple veins). The age, sex, body mass index (BMI), Clinical score of the CEAP classification (C), laterality, which superficial vein, and the procedures done were collected and analyzed.

RESULTS: During the study period, one hundred and ninety-two patients had 208 procedures for superficial venous disease. This accounted for 7.0 % of the total 2,975 surgeries performed by the vascular surgery service. The average age was 54.8 years (range 29 – 88) and the average BMI was 32.2 (range 19 – 54). There were 161 men (84%) and 31 women (16%). Sixteen people (8.3%) had additional different veins treated at a separate setting. There were 110 Left legs (53%) and 98 Right legs (47%). The great saphenous was treated in 183 cases (88%), the small saphenous in 14 (6.7%), isolated phlebectomy with or without sclerotherapy in 13 (6.3%). Twenty-nine had an isolated ablation (14%), and the remaining 86% had multiple procedures at that same operation such as concomitant phlebectomy and or sclerotherapy. The following table shows the Clinical (C) Score:

Clinical	C2	C3	C4	C5	C6	
Number		17	81	59	17	32
Percent		8.2%	38.9%	28.4%	8.2%	15.4%

CONCLUSION: Procedures for chronic venous disease accounted for 7% of all procedures performed by a vascular surgery service. A wide age range was observed and full spectrum of venous disease (C2 – C6) was treated. Eighty-six percent had more than one CPT code per case. These findings reinforce the need for established patient clinical pathways for the treatment of venous disease be established in a veteran population.

POSTER SESSION 6 -- SUBSPECIALTIES

Poster #185

THE FIRST REPORTED SURVIVOR OF A LARGE THORACOSCHISIS

TA Mitchell MD, B Childress MD, S Garza-Cox MD, JW Simmons III DO, JJ Doski MD, IC Mitchell MD

Presenter: Ian Mitchell MD, FACS

San Antonio Pediatric Surgery Associates, San Antonio, TX

BACKGROUND: Thoracoschisis is an extremely rare congenital anomaly whereby abdominal contents eviscerate through the lateral thoracic wall at the time of birth. Children with small defects can be treated in a manner similar to gastroschisis, while none with a diameter over 4cm have survived.

OBJECTIVE: To describe the clinical course of a newborn male with a thoracoschisis, only the 9th ever reported infant with such a defect, and the only reported survivor with a defect larger than 4cm.

METHODS: Medical records, operative photographs and patient videos were collected prospectively during the patient's clinical care and contrasted with previous case reports

RESULTS: CC is a former 34 week, 2370 gram male, born via C-section to a 17-year-old primigravid mother. Upon delivery, the child demonstrated hemodynamic instability and hypoxia requiring intubation. Evisceration of matted pink intestine, liver and stomach was evident via a left thoracic deformity measuring 5cm in diameter. The baby had no limb deformities, however no skin, muscle

or anterior costal cartilage was present at the defect. Hypoplasia of the left lung, and severe pulmonary hypertension were noted by imaging. Given the patient's profound instability, the bowels were gathered into a silo which was taped externally to the body wall in lieu of attempting operative repair.

An initial attempt at reduction was made 3 weeks after birth when the infant was hemodynamically stable, however excessive scarring prevented reduction and a silo was sutured to the fascia to continue to protect the viscera. Tracheostomy was performed at 3 months while the viscera ultimately granulated with daily Silvadene application. At 9 months, the bowels were reduced enough to allow the placement of a cobalt chromium strut wrapped in Strattice between fascia layers of the upper abdomen.

Chest wall construction began two months later with placement of a tissue expander to create adequate skin coverage of the defect. At one year old, the expander was removed, and a fundoplication and gastrostomy tube were performed as well as a chest wall reconstruction using a sandwich of Strattice around a Vertical Expandable Prosthetic Titanium Rib (VEPTR). The VEPTR spanned the chest wall between his native upper rib cartilages and the previously implanted cobalt chromium strut. The patient continued to improve from a respiratory standpoint, undergoing his first rib expansion three months after implantation and was discharged to home at 16 months of age.

CONCLUSION: Thoracoschisis remains an exceptionally rare congenital anomaly which can have a very benign course when the defect is small, or present in extremis when it is large. Only through the extensive collaboration of neonatal, pulmonary and surgical subspecialists, as well as a dedicated nursing and allied health team are we able to report the first survivor of a thoracoschisis defect greater than 4cm.

POSTER SESSION 6 -- SUBSPECIALTIES

Poster #186

EVALUATING VASCULAR INJURY ASSOCIATED WITH LIGAMENTOUS KNEE INJURY IN MORBIDLY OBESE PATIENTS IN WEST TEXAS AND THE IMPACT OF BODY MASS INDEX ON PRESENTING COMORBIDITIES, TREATMENT PLANS, AND OUTCOMES

D Santana MD; J Cardwell BS; A Haq BS

Presenter: Ayman Haq, BS

Texas Tech University Health Sciences Center, Lubbock, Texas

BACKGROUND: Morbidly obese individuals are at risk for low velocity knee dislocations from simple falls with simultaneous neurovascular injury in up to 40% of case. Limb loss rates between 30-60% have been reported. Furthermore, morbidly obese patients have unique comorbidities that affect their overall treatment and recovery.

Comorbidities present in morbidly obese patients with knee injuries with vascular compromise complicate surgical intervention and directly impact morbidity, mortality and cost of treatment. Morbidly obese patients also require more rehabilitation and monitoring after treatment. Physicians have multiple treatment options for these injuries associated with various outcomes.

OBJECTIVE: Patients with morbid obesity present a challenge for successful treatment due to their body habitus and comorbidities on presentation making surgical approaches more complicated. Our aim is to compare the outcomes in obese and non-obese patients with knee injury with vascular compromise.

METHODS: We conducted a retrospective study from January 1, 2000 to December 31, 2014 on patients referred to the University Medical Center (UMC) for knee injury with vascular compromise. 24 patients were found of which 9 met our inclusion criteria and 3 had incomplete medical records. Patients were sorted into 2 groups based on their body mass index (BMI). The obese group had a BMI>40 while the non-obese group had a BMI

RESULTS: Our full results are documented in Table 1.

The # of patients is in parentheses. Comorbidities included diabetes (4), congestive heart failure (2), pulmonary hypertension (2) and sleep apnea (3). Acidosis (1), hyperkalemia (0), hypovolemic shock (4) and hemorrhagic shock (4) were seen on admission. Vascular injuries were treated with primary repair (4), native vein bypass (15), popliteal artery stenting (1), thrombolytics (0) or above the knee amputation (3). Outcomes included limb loss (6), ischemic neuropathy (3), graft occlusion (1).

CONCLUSION: Our data also suggests that obese patients present with more comorbidities with this injury and have a worse course of treatment and less favorable outcomes than non-obese patients. Obese patients also have a higher rate of morbidity, mortality and discharges to rehabilitation or skilled nursing facilities.

The average lengths of stay were longer for our non-obese group. In part, due to the multiple and higher velocity injuries in this group secondary to the higher incidence of MVAs.

Primary amputation as treatment was higher in the obese group, while primary repair was more common in the non-obese group. Native vein bypass had no difference

Knee injury with vascular compromise in the obese carries a significant morbidity. However, because the injury is uncommon, it is not well studied. This study is the first step in understanding how to optimize treatment in order to improve outcomes and reduce costs.