

Understanding Industry's Payments to General Surgeons

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Background

Collaboration between industry and physicians has helped advanced the field of minimally invasive and endoscopic surgery.

In order to bring new technologies from bench to bedside appropriate understanding and training of surgeons is essential.

Industry utilizes various methods to help promote understanding their devices.

The purpose of this study is to ascertain payments to general surgeons from industry and compare them to various surgical specialties utilizing the most recent Sunshine Act database.

Methods

We analyzed payment trends using Physician Payment Sunshine Act (PPSA) data (January 2017-December 2017) to assess industry payments made to surgeons of various surgical specialties over four years published in the Open-Payments-Program website.

Results

- In 2017, \$700,429,189 was paid to 80,267 surgeons; the median (interquartile range [IQR]) was \$300 (90-1,1410).
- General surgeons collectively received 46,079,364 paid to 17,092 general surgeons, their median (IQR) was \$214 (65-1,018).
- The highest paid general surgeon received \$3,364,343.
- The highest paid surgical specialty was orthopedic surgery that received \$422,701,734 paid to 22,928 orthopedic surgeons, their median (IQR) was \$471 (115-2,444).
- The lowest paid surgical specialty was pediatric surgery \$456,841 paid to 356 pediatric surgeons, their median (IQR) was \$82 (28-182).
- Per surgeon, the highest median (IQR) was paid to cardiothoracic surgeons \$757 (170-2,650) who collectively received \$49,983,631 paid to 3,698 cardiothoracic surgeons.
- Out of sixteen different surgical specialties, general surgeons received the third highest amount of total payments and represented 21% of the total aggregate payments made to surgeons.
- The analysis per surgeon demonstrated that general surgeons received the tenth highest payments of the sixteen different surgical specialties.
- In comparison, urologists who utilize minimally invasive devices as well received the fourth highest number of payments at \$33,811,589 and had a median (IQR) of \$523 (166-1,324).

Figure 1: Payments to surgeons by payment ranges (<\$100, \$100-999, \$1,000-9,999, and \$10,000- 99,999 and \$100,000) from 2014-2017.



Conclusion

- The PSSA data demonstrates that per surgeon, general surgeons received lower median payments in comparison to other surgical specialties.
- General surgeons were ranked at the tenth highest recipients of sixteen surgical specialties.
- As advances are made in the field of minimally invasive and endoscopic surgery, comparing this field's payments to other surgical specialties is beneficial to understand the amount of monetary exchange across all specialties nationally.

Training leaders

A new approach to leadership training in Surgical residency

Daniel Bolton, MD



Introduction

The American College of Surgeons requires leadership training in residency. We have designed a program in conjunction with the U.S. Army to provide the fundamental tools needed to assess a situation, make appropriate decisions,, and lead a team to task completion. The U.S. Army has studied leadership in depth and developed leaders for the past 200 years and are the foremost experts on leadership training. Our leadership course develops leadership skills within residency training. The goal developing effective leaders who optimize their prior experience, knowledge, and skills. This will develop self-reflective participants, who critique their performance and strive to improve in leadership, motivation, communication, and situational awareness. The training program provides the tools to understand the principles of leadership and reinforces the learning with graded leadership responsibility over the five years of residency training, with the goal of developing a reproducible program that is available to residency programs throughout the USA.

Methods

Over 15 months we liaised with the U.S. Army and senior surgical staff members to develop a program based on current leadership theory and studies. The program is being run with three components; 1) a manual is provided to all residents with key reading involving core topics based on an integration current leadership theory coupled with U.S Army leadership principles, 2) mandatory protected time for focused interactive lectures with leadership specialists from the U.S. Army and senior surgical faculty designed to reinforce all core principles and 3) longitudinal experience as a direct associate of senior surgical staff at Orlando East campus board meetings, working at management and governance levels. The program is being assessed by 1) individual standardized feedback on the participants personal leadership development experience, 2) assessed utilizing a 360° feedback tool to gauge leadership development and 3) all feedback will culminate in a formal scheduled review of progress conducted twice yearly. The program is set up in a longitudinal structure with graded responsibility in clinical, management and governance environments which allows the participants to develop all aspects of their leadership skills over the course of the entire residency program.

Conclusion

Formal leadership training as a key pillar of surgical education and a requirement of the American College of Surgeons. AdventHealth Orlando surgical residency have identified a need in this area and are stepping in to fill the void that currently exists in developing future surgical leaders. We have created a unique and robust training program in concert with the U.S. Army, who are experts in the training men and women of all backgrounds to become skilled leaders in the most challenging environments. Our goal is to provide a safe working environment, with clear communication and robust situational awareness to inspire higher levels of teamwork and excellence of care for patients. This will improve the quality of care, invest in a well-rounded education of future surgeons, and provide a tested leadership program that can be utilized by other residency programs throughout the nation.

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Efficacy of a Mindfulness-based Program on Surgeon Quality of Life

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Background

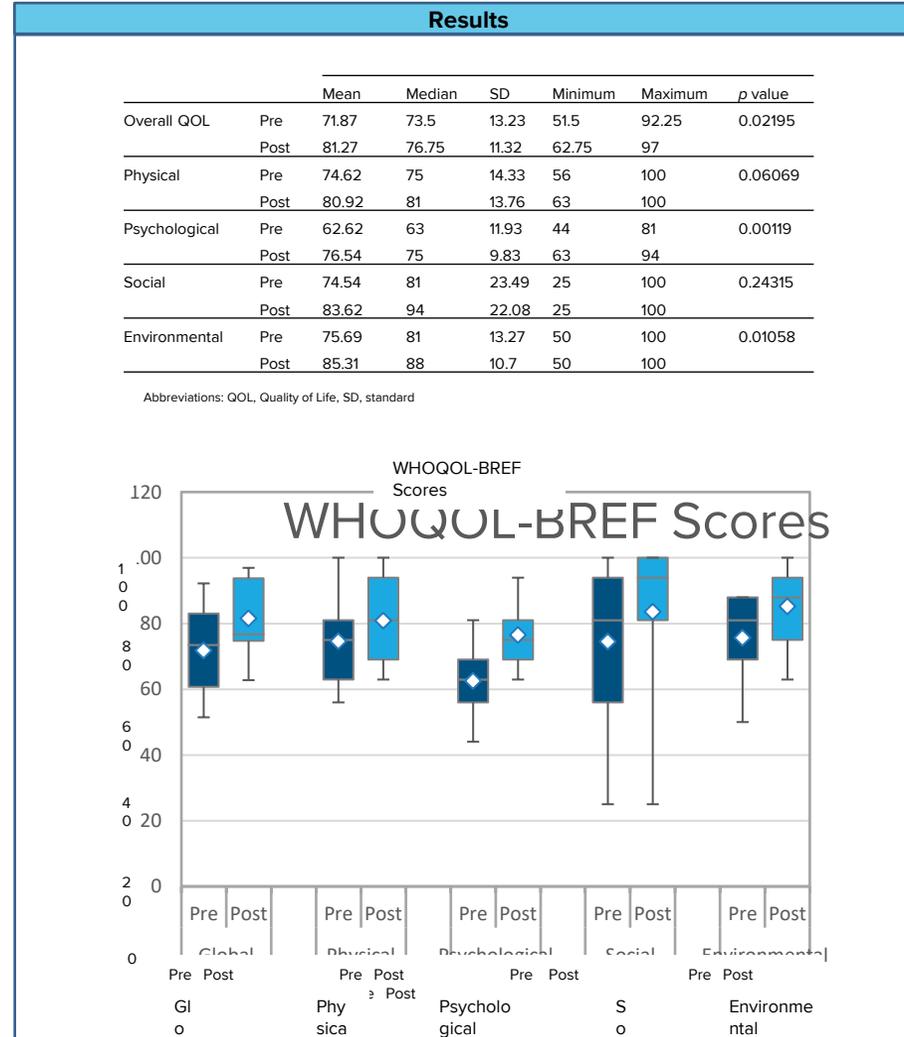
The Accreditation Council for Graduate Medical Education's (ACGME's) Clinical Learning Environment Review (CLER) Program focuses on well-being as one of its core six focus areas. It has been well-established that well-being of clinical care team contributes to an optimal learning environment and high-quality patient care. While numerous studies have investigated the efficacy of mindfulness-based practice in improving quality of life in healthy as well as chronically ill individuals, no study to date has studied this in surgeons. The validated intervention of Three Good Things (3GT) is an activity aimed at cultivating positive cognitions and emotions that has been shown to not only reduce burn-out but also improve well-being. The aim of this study is to evaluate the effect of a mindfulness-based practice on quality of life outcomes in general surgery residents and academic core faculty.

Objective

To identify whether mindfulness-based practice improves surgeons' quality of life

Methods

A longitudinal study enrolled general surgery residents and academic core faculty who worked at AdventHealth Orlando from February to March 2021. The World Health Organization's Brief Quality of Life index (WHOQOL-BREF) was used as a pre-survey and post-survey to assess quality of life. Intervention was a mindfulness exercise, Three Good Things, whereby participants reflect upon three good things that happened to them during their day for 21 days. Main outcome measure was global quality of life which can be further characterized into domains of physical health, psychological health, social relationships, and environment. Data was analyzed using paired t-tests. P values were 2-tailed, with level of significant set at 0.05.



Analysis & Discussion

In total, 13 participants met inclusion criteria. Overall, global quality of life improved by 13.1% and within the following 4 sub-domains: physical 8.5%, psychological 22.2%, social 12.2%, environmental 12.7%. Of these, significance was met for overall quality of life, psychological, and environmental domains ($p < 0.05$). Differences in physical and social domains were not statistically significant.

Conclusions

Mindfulness-based practice has been shown to improve quality of life in healthy as well as chronically ill individuals. A 21-day mindfulness-based practice was shown to surgeons' global quality of life as well as psychological and environmental domains. Further work may examine whether these benefits persist over a longer follow-up period.

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Post-Operative Outcomes in Patients Receiving BioD G3 during Colorectal Resections- a Pilot Study

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BACKGROUND

- Anastomotic leak is a potentially catastrophic complication following colorectal surgery
- The published leak rates range from 6% to 30%, depending on the location of anastomosis and patient-related factors
- There are a multitude of intraoperative factors that contribute to leakage including technical failure, anastomotic tension and adequate blood supply
- BioD-G3 is a tri-layer amnion widely used in plastic and reconstructive surgery to promote wound healing and tissue ingrowth
- Hypothesis: this product will improve anastomotic healing and prevent postoperative leak in our colorectal patients

METHODS

- We identified consecutive patients undergoing colorectal surgery, with their anastomoses reinforced with BioD-G3 between March 2019 - September 2020
- Demographic and operative factors were obtained from the patient medical records
- The primary outcome was to evaluate incidence of post-operative anastomotic leak

RESULTS

Table 1. Characteristics of patients undergoing colorectal surgery, with their anastomoses reinforced with BioD-G3.

Variable	Subgroups (n=No. of patients)			Total N (%)
	Benign Disease	Cancer	IBD	
Demographics and Pre-operative factors				
Sample size	27	21	16	64
Mean Age	56.5	61.8	45.7	54.6
Gender				
Male	11	7	10	28 (43%)
Female	16	14	6	36 (57%)
Race				
White	23	17	15	55 (86%)
Black	2	2	0	4 (7%)
Asian	1	2	0	3 (4%)
Other	1	0	1	2 (3%)
Smoker	2	4	2	8 (12%)
Steroid use	1	4	3	8 (12%)
Chemotherapy	1	6	0	7 (11%)
Mean Comorbidity score	2.9	7.5	1.2	3.8
Intra-operative factors				
Procedure type				
SB	8	1	6	15 (23%)
IC	7	12	8	27 (42%)
CR	12	8	1	21 (33%)
IA	0	0	1	1 (2%)
ASA status				
1	1	1	2	4 (7%)
2	9	10	8	27 (42%)
3	13	7	6	26 (41%)
4	0	1	0	1 (2%)
Not available	4	2	0	6 (9%)
Mean blood loss (cc)	36.6	125	89.2	83.6
Mean Op-time (min)	196.8	174.7	171.8	181.1
Post-operative factors				
Anastomosis leak	1	1	2	4 (6%)
Mean Length of stay	8.4	5.8	8.2	7.4
Mean Post-operative days since return of bowel function	2.9	2	2.8	2.5
Disease recurrence	0	1	3	4 (7%)

RESULTS

- Four (6%) patients suffered anastomotic leakage
- Two of these patients underwent surgery for cancer, one for inflammatory bowel disease, and one for benign disease
- One patient underwent anterior resection, one a small bowel resection, and two ileocolic resection
- All underwent salvage surgery to correct their anastomotic leak
- Average days to return of normal bowel function after surgery was 2.5 days

CONCLUSIONS

- Early and limited experience suggests that patients with BioD-G3 seem to have a lower anastomotic leak rate
- While there are many factors that contribute to an anastomotic leak, the use of BioD-G3 anastomotic reinforcement shows promise as an additional tool in the prevention of anastomotic leakage.

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Components of High Resolution Manometry That Change Surgical Decisions

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Introduction

- In this study we analyze the importance of high resolution manometry (HRM) in relation to foregut surgery. We performed a single institution retrospective study that assessed which characteristics of HRM affect surgical planning.
- These patients presented to our clinic with a myriad of complaints and just as many coping mechanisms for their disease. To be able to elucidate the relationship of these symptoms to their pathology we used several studies to assess the patient's gastroesophageal function, anatomy and physiologic insults. Of these studies, manometry takes multiple physiologic parameters and represents them in a way that gives information on the function of the lower esophageal sphincter (LES) and strength of contractility throughout the esophagus. Some of the pathophysiology we evaluated includes paraesophageal hernias, reflux and achalasia.
- The previous study in our institution found that at least 51% of the time, the manometry results changed the planned surgical operation. So, in following up that previous study, we wanted to determine which factors of the manometry exam influenced the final decision at the gastroesophageal junction (GEJ)

Manometry

- Manometry has previously been used to evaluate patients prior to anti-reflux surgery. Although conventional manometry was the standard of esophageal motility, HRM offers greater advantages. This is due to having up to 32 sensors that provide contractile activity along with impedance which measures the effectiveness of bolus clearance with each swallow. This additional information could permit us the chance to tailor a surgical approach.
 - Ex. Patient with impairment of esophageal function could be considered for partial instead of a 360 degree fundoplication.
- In order to evaluate HRM's full impact, we proceeded with a single institution retrospective study on a full spectrum of surgery at the GEJ.

Methods

- The data gathered for this study came from HRM studies performed at a single institution from 2012-2016. The same gastroenterology group performed the studies utilizing the Sierra Scientific Instruments High Resolution Manometry devices. 298 manometry studies were identified and their raw data was analyzed. A chart review was conducted on the collected data including preoperative symptoms, manometry results, diagnosis, preoperative assessment via Upper GI x-rays, 48-hour pH studies, DeMeester scores and upper endoscopy. Not all patients had all these studies available.
- Findings of esophageal high-resolution manometry were classified according to the Chicago Classification of Esophageal Motility Disorders v2.0 and v3.0. Esophageal motility was scrutinized based on the integrated relaxation pressure, pressurization and contractile function.
- Inclusion of the final analysis included patients that underwent foregut surgery by a specific surgeon. Following completion of the dataset, the data was analyzed by a single surgeon but was blinded to identity and manometry results. Following surgical determination, the manometry results were exposed and procedural plans were revised as necessary. Any alterations based on manometry were recorded. Patients who had further evaluations at an outside hospital or underwent manometry at an outside hospital were excluded.

Results

- A total of 298 HRM studies were identified and 114 met search criteria which were reviewed by a single surgeon. Of those, 50.9% of cases (n=58) were identified to have altered the planned procedure. Abnormal motility was identified in 52.6% of cases which corresponded to 42 (72%) patients in whom the surgical decision was changed. The distal contractile integral altered 39% of the cases when <1000 and 25.8% of the cases when >2000.
- Not included were 13 Heller myotomies with Dor Fundoplication and 20 cases with no surgeries recorded.

Patient demographics and symptoms (114 patients seen by single Surgeon)	No. (%) of 114 patients	If Changed Surgical Plan No. (%)	Percent of the 58 where HRM Changed Decisions (%)	Nissen Fundoplication	Toupet Fundoplication
High Resolution Manometry		59 (59.8)			
-Abnormal Motility	62 (54.4)	42 (36.8)	72.4	9	30
-Normal Motility	52 (45.6)	16 (14)	27.6	30	12
Distal Contractile Integral					
-DCI <1000	36 (31.5)	23 (20.2)	39.7	8	19
-DCI 1000-1500	20(17.5)	9(7.9)	15.5	13	6
-DCI <1500 Summary	59 (49.1)	32 (28.1)	55.2		
-DCI 1500-2000	10 (8.7)	4 (3.5)	6.9	1	4
-DCI >2000	33 (28.9)	15 (13.2)	25.9	15	8
-DCI = NA	16 (14)	7 (6.1)	12.1	2	4

Discussion

- Analysis of our data showed a correlation between partial fundoplication and a DCI<1000 whereas a DCI >2000 favored complete fundoplication. A DCI between 1000-1500 seemed to favor complete wrap compared to partial (2:1).
- Abnormal motility was associated with partial fundoplication whereas normal motility correlated with a complete fundoplication.
- Overall the distal contractile integral in the presence of abnormal motility showed the greatest effects on one's choice for surgery.
- Limitations include: Manometry results only from our institution, only about ¼ of the patients that underwent foregut surgery were analyzed and we used the opinion of only a single surgeon.

Conclusion

This retrospective, single institution study demonstrates the value of identifying abnormal motility via the Chicago classification and its effect on surgical decision making at the GE junction. Furthermore, it identifies that additional factors such as low DCI and abnormal motility can also have significant influence on a surgical choice.

Miscellaneous

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Funding Support

No funding was required

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A Surgical Case Report of Neurogenic Appendicopathy

John Hoff M.D., Alexandros Coutsoumpos M.D.

Introduction	Case Description	Discussion
<p>Appendectomy is a commonly performed procedure. In the case of neoplasm, after proper workup to rule out metastatic disease, surgical management is the definitive treatment.</p> <p>Here we present a rare case of presumed neoplasm determined to be neurogenic appendicopathy in a patient who underwent an appendectomy.</p>	<p>A 59-year-old woman presented with worsening abdominal pain having recently been diagnosed with pyelonephritis a week prior. Upon further evaluation, laboratory values revealed severe coagulopathy and CT revealed an abnormal appearance of the appendiceal tip attributed to possible neoplasm.</p> <p>Surgery was consulted upon admission but deferred surgical intervention for further workup and normalization of INR. While receiving blood products for normalization of INR over the ensuing days, further workup to include chest CT was negative for metastases or PE. Hematology/Oncology attributed the elevated INR to her ongoing pyelonephritis and with continued antibiotics and blood products, her INR normalized.</p> <p>Preoperatively, she underwent a colonoscopy which revealed mild erythema at the appendiceal opening with otherwise normal mucosa. Subsequently, an appendectomy was performed, and the patient was discharged the following day with no complications.</p> <p>Pathology revealed neural hyperplasia in submucosa with fibrous obliteration of distal lumen and a small diverticulum (neurogenic appendicopathy) with no evidence of neoplasm.</p>	<p>Many neoplasms of the appendix are surgically managed after proper workup. In this unique circumstance, what appeared to be a neoplasm of the appendix on imaging, was not a neoplasm but rather, a rare case of neurogenic appendicopathy. Given the frequency of neoplasm versus neurogenic appendicopathy, an appendectomy will be performed in these patients confirming the absence of neoplasm.</p>

Lymphoma: a rare diagnosis following robotic recurrent inguinal hernia repair

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Background

Tumors of the inguinal canal are exceedingly rare with the majority being metastatic, gastrointestinal or urogenital in origin. We present a case of follicular lymphoma diagnosed during routine histological evaluation of a surgical specimen following a robotic recurrent inguinal hernia repair.

Case Report

A physically active 90-year-old male with prior history of open bilateral inguinal hernia repair 20 years ago presented with a one-year history of enlarging right recurrent inguinal hernia causing significant disruption to his activity level secondary to discomfort. Physical exam revealed a reducible right recurrent inguinal hernia. CT scan of the abdomen and pelvis showed a small recurrent right inguinal hernia with herniation of right anterior bladder wall and a small left inguinal hernia containing fat (Fig. 1). He subsequently underwent robotic-assisted bilateral recurrent inguinal hernia repair with mesh (Fig. 2,3). Intraoperatively, a soft tissue mass was removed from the right spermatic cord with preliminary clinical diagnosis of a right spermatic cord lipoma. The patient had an unremarkable postoperative course and was seen for follow up in clinic. Final pathology report which included histological evaluation and immunochemical analysis of the presumed right spermatic cord lipoma was in fact consistent with a low-grade follicular lymphoma (Fig. 4). The patient was referred for medical oncology evaluation but opted against further work-up and management.



Figure 1. Preoperative CT scan demonstrating recurrent right inguinal hernia



Figure 3. Intraoperative placement of mesh for repair of recurrent right inguinal hernia



Figure 2. Intraoperative right myopectineal orifice inspection

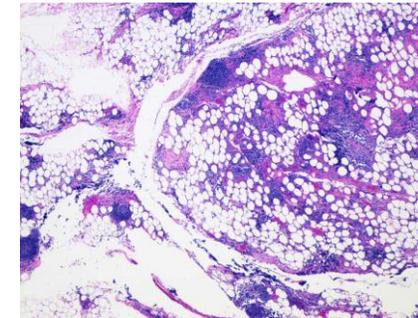


Figure 4. Pathology slide of the right inguinal mass demonstrating low-grade follicular lymphoma

Discussion

The incidence of inguinal hernias in the western population is high with incidence of 1.7%. Overall, less than 0.5% of these hernia sacs contain primary or metastatic tumors. The incidence of follicular lymphoma is 3.18 per 100,000 and one of the most common forms of non-Hodgkin lymphoma. However, together, they form a rare entity with just over a dozen cases reported in the literature. Older literature has advocated histologic evaluation of all hernia sac contents. The more contemporary evidence argues for gross specimen examination initially followed by histologic evaluation if suspicious features present. This was a reflection on cost containment and the aim for evidence-based use of diagnostic testing. However, this patient's hernia was characterized by malignant features only seen on histological evaluation. This case then supports routine histological evaluation of hernia sac contents.

Conclusions

This case illustrates the highly variable presentation of lymphoreticular disease with an important reminder for surgeons to maintain a wide differential diagnosis for what may appear to be a benign processes. This case also underscores the gravity of sending surgical specimens for customary pathologic evaluation even in the context of a grossly benign appearing specimen.

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Introduction

Magnet ingestion typically presents as an upper gastrointestinal issue. Urgent intervention via endoscopy or surgery is warranted within 12 hours of presentation regardless of symptomatology due to high risk of ulceration in the case of multiple magnet ingestion. Here, we present a unique case of magnet ingestion in a child whereupon evaluation, the magnets had already progressed past the stomach. After nonoperative management, the patient was taken for exploratory laparotomy revealing proximal small bowel and cecal perforation, despite radiographic evidence to suggest that the magnets were in a fixed location in the right lower quadrant.

Preoperative Imaging



Figure 1: Day 1 in RLQ



Figure 2: Day 5 in RLQ

Case

An adolescent female swallowed four small magnets and were visualized in the left lower quadrant on abdominal x-ray. After failed colonoscopic retrieval. Follow up imaging showed that the magnets had translocated to the right lower quadrant. She was given an aggressive bowel regimen in an attempt to pass that magnets during a trail of nonoperative management. Subsequent CT imaging demonstrated the magnets proximal to the ileocecal valve, though this was unable to localize their intraluminal position. As such, the decision was made to take the patient to operating room for definitive management four days after presentation.

Preoperative Imaging



CT on day 6 cannot rule out perforation

Figures



Figure 1: Demonstration of enterotomy



Figure 2: Omentum covering perforation



Figure 3: Erosion at location of magnets



Figure 4: Magnets expressed through enterotomy

Procedure

Intraoperatively, a perforation was identified in the anterior cecal wall. Through this, all four magnets were delivered. The second perforation was found in the proximal jejunum. Both enterotomies were repaired in primary fashion and an appendectomy was performed to avoid confounding future diagnoses.

Discussion

Oftentimes, foreign body ingestion may be safely managed nonoperatively as patients spontaneously pass the objects. However, certain foreign materials like button batteries and magnets present a unique challenge and require a more aggressive approach. In the case of more than one magnet, bowel can become entrapped between adjacent portions and cause pressure necrosis resulting in subsequent perforation and fistula.

Heading

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Background

Multi Inflammatory Syndrome in Children (MIS-C) is a newly recognized and potentially serious illness in children that seems to be related to exposure to COVID-19. MIS-C is a presumed delayed reaction following the period of acute illness. In July of 2020, New York State reported that of their cases, 74.2% (children 0-5 years of age), 83.3% (children 6-12 years of age) and 80.8% (children of 13 to 20 years) experienced gastrointestinal symptomatology at the time of MIS-C diagnosis indicating a large focus of inflammatory response in the abdominal compartment. It is therefore beneficial for clinicians to be aware of abdominal pain as a symptom of SARS-CoV-2 MIS-C and aimed to identify common laboratory results, symptomatology, or historical clues to aid in early identification of this phenomenon.

Methods

Records were collected for three pediatric patients who presented to the emergency department with abdominal pain where pediatric surgery was consulted before the diagnosis of MIS-C. Laboratory results, symptomatology, historical timeline, and imaging modalities were compared amongst the three patients.

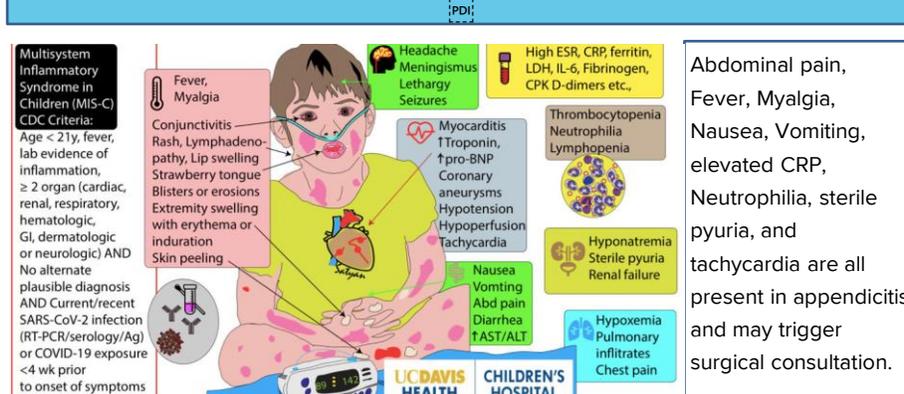
Take-Away

Hypotension in the setting of non-distinct abdominal pain is a red flag for COVID MIS-C from the surgical perspective.

Results

No distinct pattern of laboratory values was unique to these three patients which are not commonly seen with appendicitis; however, all did have a left neutrophilic shift of their CBC and all three had elevations in their CRP. All three patients had historical evidence of diarrhea, fever, and periumbilical pain but none had distinct right lower quadrant pain. All three had non-visualized appendixes on ultrasound; one had evidence of mesenteric adenopathy. The two most unique symptoms were hypotension and abnormal EKG. Although some hypotension due to dehydration is common with appendicitis, in two of the three patients the hypotension did not respond to significant fluid resuscitation. Unfortunately, although EKG changes are clinically significant, their diagnostic value is not seen because EKG is not part of the common pediatric emergency department assessment.

Infographic showing CDC criteria for #COVID19 associated Multisystem Inflammatory Syndrome in Children MIS-C from UC Davis Children



Multisystem Inflammatory Syndrome in Children (MIS-C) CDC Criteria:
Age < 21y, fever, lab evidence of inflammation, ≥ 2 organ (cardiac, renal, respiratory, hematologic, GI, dermatologic or neurologic) AND No alternate plausible diagnosis AND Current/recent SARS-CoV-2 infection (RT-PCR/serology/Ag) or COVID-19 exposure <4 wk prior to onset of symptoms

Symptoms:
Fever, Myalgia
Conjunctivitis, Rash, Lymphadenopathy, Lip swelling, Strawberry tongue, Blisters or erosions, Extremity swelling with erythema or induration, Skin peeling
Headache, Meningismus, Lethargy, Seizures
High ESR, CRP, ferritin, LDH, IL-6, Fibrinogen, CPK D-dimers etc.,
Myocarditis, ↑ Troponin, ↑ pro-BNP, Coronary aneurysms, Hypotension, Hypoperfusion, Tachycardia
Thrombocytopenia, Neutrophilia, Lymphopenia
Nausea, Vomiting, Abd pain, Diarrhea, ↑AST/ALT
Hyponatremia, Sterile pyuria, Renal failure
Hypoxemia, Pulmonary infiltrates, Chest pain

Abdominal pain, Fever, Myalgia, Nausea, Vomiting, elevated CRP, Neutrophilia, sterile pyuria, and tachycardia are all present in appendicitis and may trigger surgical consultation.

Conclusion

Abdominal pain may be one of the only presenting symptoms for Coronavirus 19 (SARS-CoV-2) in the pediatric population with a subset of these children progressing to Multi-system inflammatory Syndrome. Fever, diarrhea, periumbilical abdominal pain, and hypotension with left shift and elevated CRP are all common to the presentation of appendicitis and unfortunately are not helpful in distinguishing appendicitis from Multi Inflammatory Syndrome in Children (MIS-C) caused by SARS-CoV-2. In the presence of these symptoms with hypotension non-responsive to aggressive fluid resuscitation, there may be a clinical benefit to evaluation with EKG and SARS-CoV-2 antigen/antibody testing.

Heading

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Funding Support

None

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Giant Intra-Abdominal Desmoid Tumor Posing Therapeutic Challenges: A Case Report

Alberto J. Monreal, MD, Resident; Armando Rosales, MD; Juan Pablo Arnoletti, MD; AdventHealth Orlando

Case Report

We report the case of a 55-year-old male who presented to the outpatient Surgical Oncology clinic with an extraordinarily large, well circumscribed mesenteric mass measuring 33.9 cm x 22.8 cm x 20.4 cm.

The patient reported increasing abdominal distention with unexplained weight gain. He described exertional dyspnea and edema of bilateral lower extremities, which did not resolve with diuretics. He was having regular bowel movements.

Computed tomography (CT) imaging of the abdomen and pelvis was obtained showing the well-circumscribed mesenteric mass. There was no pathology on CT of the chest. Laboratory investigations were all unremarkable in this patient. Subsequent CT-guided biopsy was consistent with a spindle cell neoplasm and Neo-Genomic testing supported the diagnosis of fibromatosis/desmoid tumor.

Background

Desmoid tumors are benign, locally aggressive mesenchymal neoplasms accounting for approximately 0.03% of all neoplasms and less than 3% of soft tissue neoplasms. They are often encountered sporadically and tend to affect soft tissues of the extremities and the abdominal wall. Intra-abdominal desmoid tumors are rarer. The etiology of said tumors is unknown, though there is an association with trauma, surgery, and genetic syndromes including Gardner syndrome and Familial Adenomatous Polyposis syndrome (FAP). While desmoid tumors have not been reported to metastasize, they are locally aggressive with destruction of surrounding tissues and frequent recurrence after resection.

Imaging



Figure 1. CT imaging (sagittal) showing the intra-abdominal mass with significant compression of intraperitoneal and retroperitoneal structures.

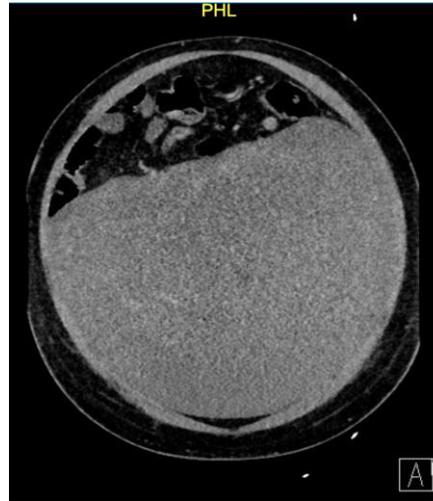


Figure 2. CT imaging (coronal) demonstrating the well-circumscribed mass measuring 33.9 cm x 22.8 cm x 20.4 cm.

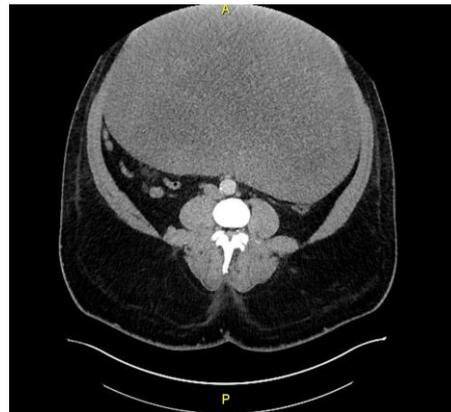


Figure 3. CT imaging (axial) demonstrating the association of the tumor with the aorta and inferior vena cava.



Figure 4. CT imaging (coronal) showing heterogeneous attenuation and enhancement of multiple mesenteric vessels associated with the desmoid tumor.

Conclusion

This case highlights a unique presentation of an exceedingly large, intra-abdominal desmoid tumor in a symptomatic patient. Pathology and immunohistochemical studies are essential for diagnosis.

There is no standard of care for desmoid tumors. Surgical resection is the mainstay of treatment. However, an up-front observation strategy is frequently recommended given the morbidity associated with surgical resection and high recurrent rates (>40%).

Other treatment options include systemic treatment with nonsteroidal anti-inflammatory agents (COX-2 inhibitors), hormonal blockade, systemic chemotherapy (methotrexate, vinblastine, doxorubicin), radiotherapy, and molecular target therapy. After evaluation by our Medical Oncology team, this patient was placed on Sorafenib, an oral multitargeted receptor tyrosine kinase inhibitor at a starting dose of 400 mg once daily. This has been shown to be effective in slowing disease progression in patients with progressive, refractory and symptomatic desmoid tumors, significantly prolonging progression-free survival.

Heading

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Funding Support

We have no funding support to disclose for this presentation.

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General Surgery Training During the COVID-19 Pandemic: The AdventHealth Orlando General Surgery Residency Experience

Alberto J. Monreal, MD¹; Joshua D. Spiegel, MD MPH¹; Rizwan Ahmed, MD¹; Steve Eubanks, MD¹; Scott Bloom, MD¹
1. AdventHealth Orlando, FL

Introduction

Hospitals both foreign and domestic instituted significant changes and radical protective measures in the care of patients affected by Coronavirus Disease 2019 (COVID-19). In doing so, many residencies had to adapt to said changes and institute major modifications to their daily workflow. Given the higher risk for infection amongst healthcare personnel working with suspected and confirmed cases of COVID-19, coupled with a culture of working in proximity with one another, the general surgery residency program at AdventHealth Orlando was restructured. This project introduces our institution's approach to resident allocation during the COVID-19 pandemic.

Project Goals

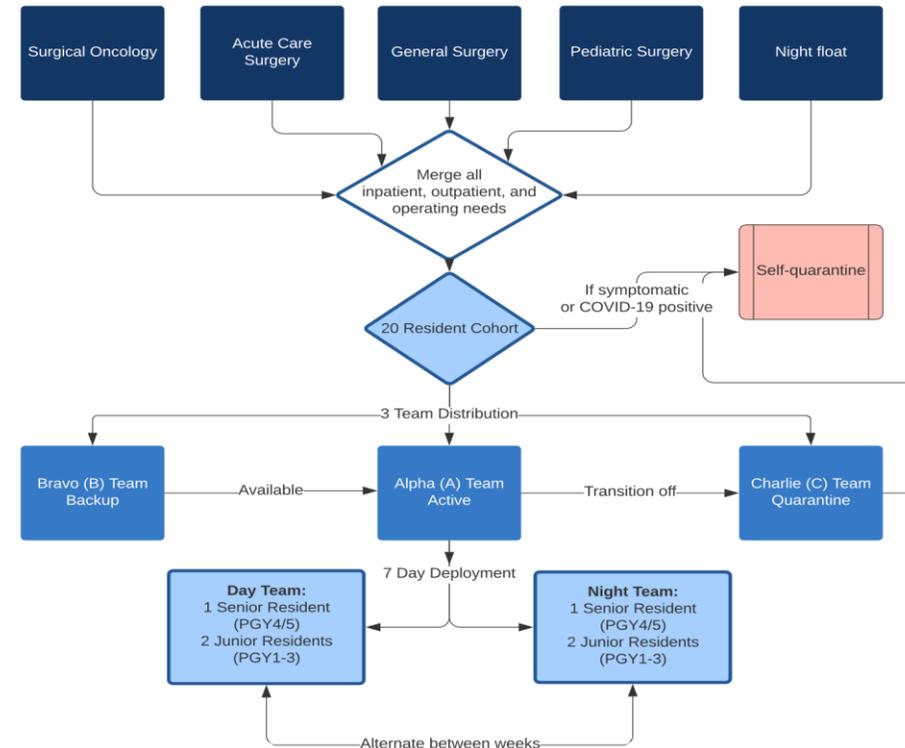
We purposefully limited the number of surgery residents with direct contact with one another and created teams working in isolation from one other to optimize physical distancing. Participation in virtual learning, research and administrative duties continued for all teams during the crisis.

The goals of this emergency restructuring were to: minimize exposure to COVID-19 amongst surgical house staff, protect the surgical resident workforce, and ensure patient care for members of the Orlando community was safe and effective.

Methods

General surgery residents on ancillary services were called back for the pandemic period in preparation for surge-level COVID-19 patients. Given the moratorium on elective cases as well as the local needs to provide safe patient care, the residency was split into three teams. These teams covered the core general surgery service-lines at AdventHealth Orlando.

Figure 1. Diagram of Restructuring, Core General Surgery Services



Each of the three main teams were further divided into day and night squads consisting of two in-house PGY 1-3 residents and one PGY 4-5 resident. Each team's tour of duty was seven consecutive days of direct patient care (A Team), followed by seven days of recovery (C team), then seven days assigned as immediate back up to the team providing direct patient care (C team). Day and night squads would swap assignments when their team returned to the front lines of direct patient care. In time, and true to the process of adaptation, the teams were consolidated into two.

Results

Residents did not exhibit evidence of burnout with this restructuring as exemplified by their voluntary request and willingness to consolidate the teams and assume more clinical responsibility during this pandemic. To our knowledge, no surgical residents were infected with the SARS-CoV-2 virus during the early COVID-19 pandemic period while this restructuring was in place. Outcomes from quality measures for both COVID positive and surgical patients under our care are in the process of active investigation.

Conclusion

We were able to minimize exposure to COVID-19 amongst surgical house staff, protect the surgical resident workforce, and ensure patient care for members of the Orlando community in safe and effective model. With the change in scheduling and modus operandi, we developed new avenues for surgical education while aiming to fulfill the necessary core competencies of interpersonal and communication skills, patient care, medical knowledge, systems-based practice, practice-based learning and improvement, and professionalism. We successfully trialed a model for resident workflow in an emergency setting that is effective and reproducible.

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Funding Support

We have no funding support to disclose for this presentation.

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Background

- Advent Health Orlando is a 7 hospital system with 506 combined critical care beds and a total of 2,885 beds.
- The incidence and pharmacotherapy of hypertriglyceridemia (HTG) in Covid-19 patients have not been well characterized.
- Hypertriglyceridemia in Covid-19 patients could lead to added complications such as pancreatitis.

Objective

To describe the incidence and pharmacotherapy of hypertriglyceridemia in a Covid-19 cohort.

Study Design

- This was a retrospective, observational, cohort of mechanically ventilated patients with Covid-19.
- This study was IRB designated as performance improvement.
- The study was conducted in two, 40-bed, Covid-19 intensive care units.
- The enrollment period was between March 22, 2020 and April 15, 2020.
- The data was retrospectively reviewed for the first 30 days of admission and included:
 1. Baseline demographics
 2. Triglyceride levels
 3. Concomitant lipid therapies
 4. Hypertriglyceridemia treatment
 5. Incidence of pancreatitis

Discussion

- Possible mechanisms of HTG in cohort:
 - Liver dysfunction (8% of cohort)
 - Propofol (94% of cohort)
 - Tocilizumab (40% of cohort)
- Acute pancreatitis was not observed.
- Initiation of insulin infusions in all where triglycerides >1000mg/dL
- Limitations: Single center, small sample
- Study significance: Data indicating an elevated prevalence of moderate to severe HTG in a Covid-19 population.
- Future Direction: Clinician awareness and monitoring TG levels closely.
- Consider alternatives to lipid based therapies.
- Consider acute hyperlipidemia treatment and stopping propofol for TG >500 mg/dL.
- Restarting home statin therapy.

Study Population

Demographics, N=48

Male, n (%)	28 (58)
Age, mean (SD)	60 (14)
History of hyperlipidemia, n (%)	18 (38)
Weight, kg, mean (SD)	90 (21)
Chronic liver disease, n (%)	3 (6)
Acute liver dysfunction* n (%)	4 (8)

* AST/ALT >5x upper limit normal at any point of admission

Results

Triglyceride values (mg/dL)

Moderate HTG (175-499) , n(%)	41 (85)
Severe HTG	
TG >500, n (%)	17 (35)
TG >1000, n (%)	5 (10)
Minimum TG, mean (SD)	139 (96)
Time from admission to peak TG, Mean (SD), days	7 (4)
TG increase from baseline, med (IQR)	139 (59-404)

Pharmacotherapy

Statin use	n (%)
Home use	18 (38)
Hospital Use	11 (23)
Other lipid lowering agents	
Insulin infusion*	12 (25)
Omega-3-fatty acid	5 (10)
Niacin	2 (4)
Fibrate	4 (8)
Tocilizumab use	19 (40)

Propofol use, n (%)	45 (94)
Dose, mean (SD), mcg/kg/min	29 (11)
Duration, mean (SD), hours	146 (118)

Outcomes	
30-day mortality, n (%)	7 (15)
Hospital LOS, up to 30 days, mean (SD)	23 (8)
Acute pancreatitis	0

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Funding/Support

Advent Health Orlando Department of Surgery
Advent Health Orlando Department of Pharmacy

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Total Pancreatic Lipomatosis: An Intraoperative Finding During Pancreaticoduodenectomy

Bradley Pansing, MD; Juan Pablo Arnoletti, MD; Armando Rosales, MD

AdventHealth

Background

- Solid pseudopapillary pancreatic neoplasm is a rare primary neoplasm of the pancreas with low malignant potential¹
- Presentation is usually in the third decade of life in females¹
- Pancreatic lipomatosis is a rare disorder of the pancreas resulting in replacement of pancreatic parenchyma with fibroadipose tissue²
- Pancreatic lipomatosis is treated with enzymatic supplementation for pancreatic exocrine insufficiency²
- There is 1 case report of a pancreaticoduodenectomy being performed on a patient with pancreatic lipomatosis³

Patient Presentation

- 50 year old otherwise healthy female was referred to clinic for resection of a right upper quadrant mass that was biopsy proven solid pseudopapillary neoplasm
- She presented with symptoms consistent with mass effect: left upper quadrant pain, early satiety, bloating, and weight loss
- She presented with a CT scan in Figure 1 which showed the pseudopapillary neoplasm
- On figure 2, it was noted that the pancreas was replaced with fat on imaging. There was no clinical significance as the patient denied symptoms of malabsorption or diabetes
- She underwent EUS which showed a hypoechoic, heterogeneous solid mass in the retroperitoneum measuring 9.0 x 7.0cm. A biopsy was taken confirming the diagnosis as a solid pseudopapillary neoplasm

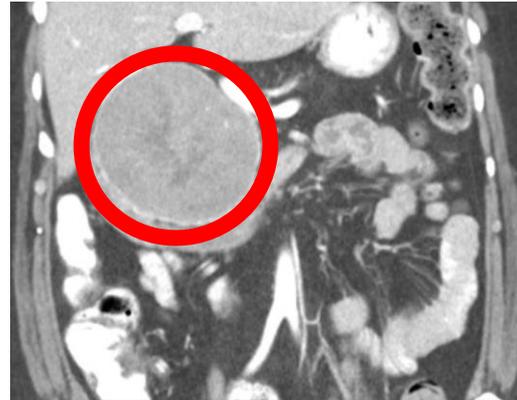


FIGURE 1: Encircled area shows a 9.0 x7.0. hypochoic, heterogenous solid mass in the retroperitoneum



FIGURE 2: Adipose replacement of the pancreatic parenchyma

Pancreaticoduodenectomy (Whipple)

- When dividing the pancreas, there was no discernable pancreatic parenchyma only fibroadipose tissue
- No pancreatic duct was visibly identified
- A frozen section of the pancreatic neck was taken, and confirmed the absence of any pancreatic exocrine parenchyma
- Islet cells were present on the frozen section
- The decision was made to not perform a pancreaticojejunostomy as there was no duct or parenchyma to perform an anastomosis
- In review of the literature post-operatively, there is one case report in 2020 from Japan describing similar intraoperative findings with the decision to perform a Blumgart-style pancreaticojejunostomy instead of a standard pancreaticojejunostomy³

Pathology

Final Pancreatic Margin:

- Benign fibroadipose tissue with scattered small Islets of Langerhans
- No Pancreatic Acinar Tissue is Present

Pancreaticoduodenectomy:

- Solid Pseudopapillary Neoplasm, 11cm in the greatest dimension
- 10 benign lymph nodes

Recovery

- The patient has remained non-diabetic with good blood glucose control
- She was empirically started on Pancrealipase supplementation
- She developed a chyle leak that was treated with a low-fat diet and leaving the JP drain in place for 6 weeks until the fluid drainage had resolved
- Patient had no biochemical evidence of a pancreatic fistula

Key Points

- It is exceptionally rare to perform a pancreaticoduodenectomy on a patient with total pancreatic lipomatosis, even more so for solid pseudopapillary pancreatic neoplasm
- Without pancreatic parenchyma or a duct, a pancreaticojejunostomy was not performed due to risks of anastomotic failure
- The patient recovered well without evidence of a pancreatic leak or diabetes.

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Incremental cost effectiveness of ECMO as a bridge to cardiac transplant or left ventricular device placement in patients with refractory cardiogenic shock

Joseph A Reza, Bradford Ledzian, Jing-Wei Sun, Dr Scott Silvestry

Background

Among selected patients with acute cardiac failure, veno-arterial extra-corporeal membranous oxygenation (V-A ECMO) has been utilized as means to bridge patients to recovery. More recently, there is emerging literature describing the application of VA-ECMO as a bridge to either transplant or left ventricular assist device (LVAD) placement. Unfortunately, this technology is associated with significant costs related to ICU care and the need for specialized teams. As health care costs have escalated over the last several decades, increased interest has been focused on identifying cost effective interventions. We sought to identify the incremental cost effectiveness ratio (ICER) of ECMO used as a bridge to cardiac transplant or LVAD among patients with acute cardiac decompensation.

Methods

We reviewed several patients with refractory cardiogenic shock who received V-A ECMO cannulation and were bridged to either cardiac transplant or LVAD placement. A Markov model to estimate health outcomes and costs for patients who had heart transplant or LVAD. For each patient population (transplant or LVAD), we compared ECMO with non-ECMO. The structure used two health states including "alive" and "dead". Cohorts entered the model alive and at every one-year cycle were exposed to risks of death. The model applied variable mortality rates every cycle and ran forward for 20 years after transplant or LVAD. Costs and quality-adjusted life year weights were modelled in a time varying manner where appropriate. Discounting of health outcomes and costs was applied at 3%. All costs were adjusted to reflect 2019 prices. The model was performed in TreeAge Pro Healthcare 2020 Software

Results

We evaluated 7 patients (group 1) with cardiac failure who were bridged with ECMO and then underwent cardiac transplant as well as 6 patients who were treated with ECMO and then received placement of an LVAD (group 2). The average age in these groups was 47.6 and 49.3 years. Among group 1 patients, the ICER was found to be \$162,016 while the ICER of group 2 patients was found to be \$214,492. The average inpatient cost for group 1 was reported to be \$610,940 vs \$739,126 for group 2 patients. The average inpatient costs for patients who received cardiac transplant or LVAD who did not require ECMO was \$517,676 and \$312,416, respectively.

Demographics: ECMO to Heart Transplant

ECMO Indications	Age	Days on ECMO	ICU LOS prior to Transplant	LOS after Transplant
Refractory Cardiogenic Shock	18	5	56	25
Refractory Cardiogenic Shock	56	1	35	27
Refractory Cardiogenic Shock	58	3	25	32
Refractory Cardiogenic Shock	54	4	24	17
Refractory Cardiogenic Shock	59	3	4	26
Refractory Cardiogenic Shock	40	3	10	21
Refractory Cardiogenic Shock	48	5	5	23

Demographics: ECMO to Left Ventricular Assis Device

ECMO Indications	Age	Days on ECMO	ICU LOS prior to LVAD	LOS after LVAD
Refractory Cardiogenic shock	58	5	8	34
Refractory Cardiogenic Shock	33	19	15	32
ECPR	46	18	21	20
Refractory Cardiogenic shock	55	4	14	20
Refractory Cardiogenic Shock	47	8	12	40
Refractory Cardiogenic shock	57	12	12	28

Results

ICER of ECMO Strategy	ECMO Cost	Bridged to Cardiac Transplant QALY	Cardiac Transplant Cost/QALY	ICER
ECMO	\$1,898,156	13.8	\$136,634	\$162,016
Non-Bridged	\$1,347,340	10.4	\$128,409	-

ICER of ECMO Strategy	ECMO COST	Bridged to LVAD QALY	LVAD Cost/QALY	ICER
ECMO	\$1,962,042	9.65	\$203,375	\$214,492
Non-Bridged	\$1,500,614	11.8	\$127,188	-

Conclusion

- The ICER of ECMO utilized as a bridge to cardiac transplant falls outside of the reported accepted value of \$120,000/QALY
- The ICER of ECMO utilized as a bridge to left ventricular assist device placement falls outside of the reported accepted value of \$120,000 QALY
- The predominant costs are associated with care in the intensive care unit
- Strategies to reduce cost in this phase of care may improve the cost-effectiveness of this strategy

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Funding Support

No funding was provided for this project

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Haemophilus Parainfluenza Cerebral Embolism in a Young, Healthy Female: A Case Report

Jon J Risovas MD, AdventHealth GME: East Orlando Hospital, Katia Lugo MD FACEP FAAEM, HCA/USF Morsani College of Medicine GME: Oak Hill Hospital; Adrian Mati, B.S. Biomedical Sciences University of Central Florida

Chief Complaint

A female patient in her mid-twenties with no past medical history presents to the emergency department (ED) with sudden onset of slurred speech, left-sided weakness, and left-sided numbness 40 minutes prior to arrival. Per the patient's parents, at the onset of symptoms, the patient was unable to ambulate and had a discernible left facial droop which rapidly improved while they were on the phone contacting paramedics and had completely resolved by the time of arrival at the ED.

The patient reports 5 days prior she had been evaluated at an Urgent Care for a fever and headache, was prescribed doxycycline, and states she was taking the antibiotic intermittently. The patient did not have any past medical issues, prior surgeries, or positive social history including tobacco or illicit drug abuse. The patient did have a paternal grandfather with a "minor stroke at the age of 60", however no other pertinent family history.

Initial Physical Exam

General: Alert, anxious, afebrile

Cardiovascular: No murmur, Normal peripheral perfusion, No edema, slightly tachycardic.

Neurological: AOx4, No focal neurological deficit observed, CN II-XII intact, normal sensory, speech, coordination, and motor strength.

Psychiatric: Cooperative, Mood and affect: Anxious.

Case Development

The patient underwent a stroke CT non-contrast on arrival, which did not show any pathology, had mild leukocytosis but otherwise normal labs. One hour into the patient's stay, she developed acute left-sided facial weakness and a low-grade temperature of 100.3 F with associated tachycardia, a mild facial droop was noted on repeat physical exam, without the involvement of upper or lower extremities.

The stroke neurologist was consulted, and a stat CT perfusion and angiography were obtained, which showed acute ischemic stroke involving the right middle cerebral artery. The patient was then educated on the risks and benefits of tPa, and shortly after initiation of therapy had a resolution of her facial droop.

The patient was admitted to Neuro Intensive Care Unit (ICU) and had an infectious and autoimmune workup for possible endocarditis and hypercoagulable state.

MRI brain and abdomen demonstrate multiple infarcted sites including concern for renal infarcts, consistent with embolic pathology. Blood cultures resulted in positive Haemophilus Parainfluenza sensitive to ceftriaxone, however a transesophageal echocardiogram was negative for vegetations, intracardiac shunting, or thrombus.

The patient was started on ceftriaxone and continued IV antibiotics for a total of 6 weeks and had no residual neurological deficits.

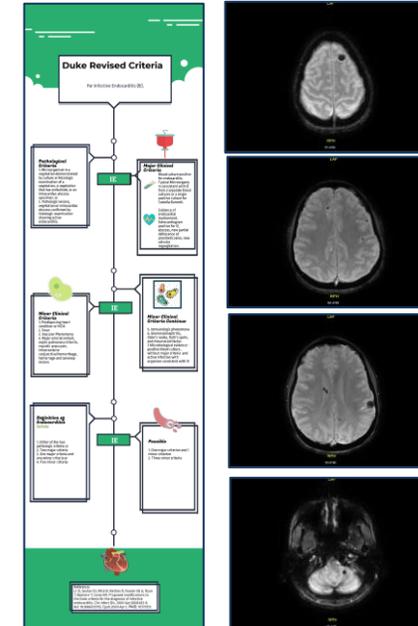
Questions

1. What is the patient's diagnosis since the echocardiogram was negative?
2. What are predisposing which would make a young patient high risk for endocarditis?

Answers

1. The patient had endocarditis by Dukes Criteria. Song [4] demonstrated that rates of infected endocarditis appear to have been increasing in patients without previously diagnosed structural cardiac abnormalities; therefore, a high index of suspicion is required for diagnosis and clinicians should use the Duke criteria to deem diagnosis confirmed, possible, or rejected.
2. Predisposing factors are the following: intravenous drug abuse (IVDA), those who have an underlying structural cardiac abnormality, or prosthetic valves, as well as patients who had recent dental procedures or those with dental abscesses as HACEK organisms are endogenous to the oropharynx .

Clinical Images



Pearls

- High index of suspicion is important for stroke-like symptoms in young patients with fever for evaluation and treatment of Infective Endocarditis
- Diagnosis can be made with Modified Duke Criteria without vegetations on echocardiograms

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Introduction

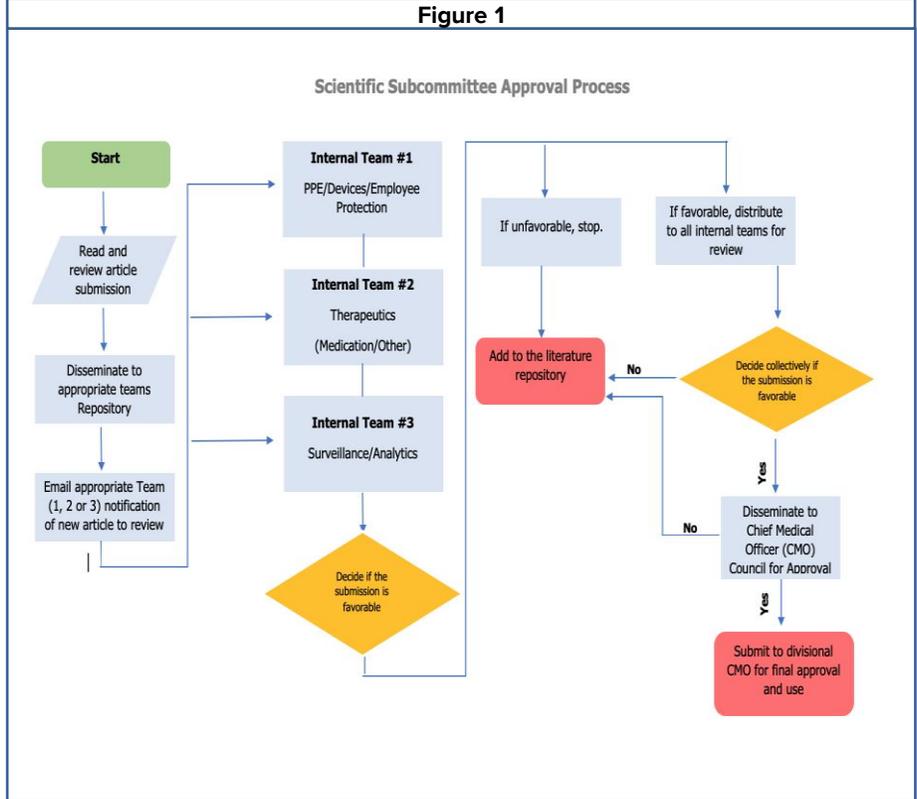
The COVID-19 pandemic has drastically changed day-to-day life across the United States. Within healthcare systems and surgical residency programs, the cessation of elective cases and changing workplace requirements dictated programs pivot resources towards treatment of critically ill COVID-19 patients while also purposefully minimizing resident exposure to the virus.

Methods

Three general surgery residents re-focused their workforce to participate in a multidisciplinary subcommittee on science and innovation. The goals of the subcommittee included: critical analysis of scientific data, formation of a repository of knowledge for the continuous review of scientific literature on COVID-19, and creation of a pathway used to design and implement new treatments, procedures, and policies across the AdventHealth System.

Results

As part of a system-wide COVID-19 task force, this subcommittee was charged with reviewing scientific literature ultimately used to implement policies affecting a healthcare system comprising more than 8200 hospital-beds in 50 hospitals spanning 9 states.



Conclusions

The experiences shared through this platform fostered learning and growth for the surgical residents in various spheres, including leadership. They were given a novel opportunity to assist in the creation of evidence-based policies used in the fight against COVID-19. The collective experiences shared amongst this cohort was a unique apprenticeship in leadership and professionalism.

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Tracheostomy In Mechanically Ventilated COVID-19 Positive Patients

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Introduction/Background

SARS-CoV-2 may cause debilitating respiratory illness which may lead to prolonged mechanical ventilation. Morbidity and mortality are severe in ventilated patients. Moreover, patients with improving oxygenation are still at risk for ventilator induced complications and are difficult to wean. Personal protective equipment (PPE) and staff are limited and the demand for resources such as ventilators, sedation agents and respiratory therapists are increasing. Tracheostomy is challenging due to significant exposure risk to staff from aerosolization, however it may help circumvent resource scarcity and aid in ventilator weaning.

Methods

We describe the process of performing a tracheostomy in COVID-19 patients to facilitate ventilator liberation that minimizes exposure and transport of high-risk patients.

Results

Modifications to the tracheostomy procedure in the setting of a COVID-19 positive patient include the use of powered air-purifying respirators (PAPRs) for all staff in the operating room, high-efficiency particulate air (HEPA) viral filters on ventilator and suction tubing, the use of intravenous (IV) sedation only, having the endotracheal tube is advanced toward the carina in order to remove the operative tracheotomy site from the closed ventilatory circuit during tracheotomy, and that the ventilatory circuit was paused during the process of removing the endotracheal tube and inserting the tracheostomy in order to reduce exposure of aerosolized viral particles to the team.

Figure 1

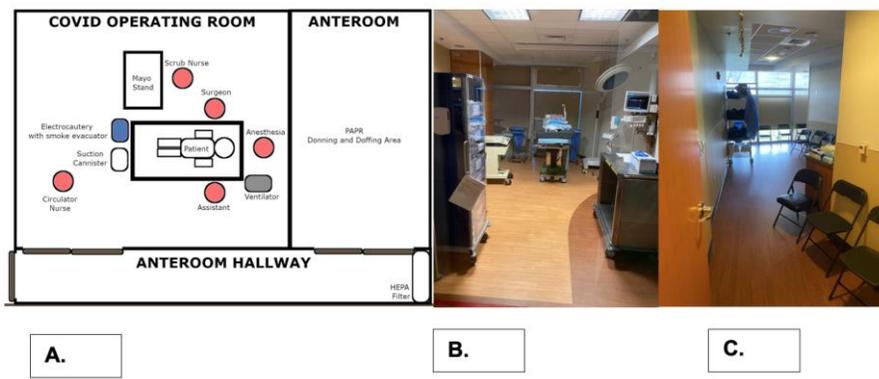


Figure 1: (A) Schematic model of negative pressure COVID operating room with patient and required personnel. (B) Actual operating room with equipment. (C) Actual anteroom with personal protective equipment.

Conclusions

This has been a description of an effective method for tracheostomy in patients with COVID-19 while reducing exposure of aerosolized viral particles to the surgical team.

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UNUSUAL INTESTINAL OBSTRUCTION SECONDARY TO ABDOMINAL COCOON SYNDROME: A REPORT OF THREE CASES

Martin Uwah, MD; Christopher Olukoga, MD

Case #1

49-year-old gentleman presenting to the outpatient clinic for several episodes of unexplained small obstructions—all successfully managed with non-operative management to date. In the setting of persistent abdominal discomfort, the patient was scheduled for an elective diagnostic laparoscopy. Intraoperatively a thin membrane was noted to encase 2-3 feet of small bowel as well as an incidentally found Meckel's diverticulum. Patient underwent resection of the encased intestine and its surrounding cocoon en bloc and tolerated the procedure well without complication.

Case #2

40-year-old gentleman presented to the hospital with a five-day history of worsening abdominal pain and emesis. Third episode in the past year, previous episodes had been managed non-operatively. No previous abdominal surgery. CT scan of the abdomen and pelvis demonstrated findings consistent with small bowel obstruction with possible internal hernia. Patient taken urgently to the operating room for further evaluation. Intraoperatively, a diffuse cicatricial encasing of the small bowel by a fibrous membrane was noted. The cocoon was noted to be dense distal with relative thinness over the proximal jejunum. The encased bowel was noted to be viable and thus, only the capsule was excised. Patient tolerated the procedure well without complication and was discharged on post-operative day 5.

Case #3

71-year-old woman with past medical history of Crohn's and multiple abdominal procedures who presented to the hospital with abdominal pain, vomiting and obstipation in the setting of radiation and chemotherapeutic treatment for the management of a metastatic adenocarcinoma of unknown primary. After noting findings of small bowel obstruction in imaging and failing non-operative management, patient taken to operating room. Intraoperatively, markedly dilated loops of small bowel were noted consistent with obstruction. Additionally, two segments of the ileum were found to be completely encapsulated in an abdominal cocoon. After extensive lysis of adhesions and the encasing membrane, the bowel was noted to be viable. Patient's post-operative course was complicated by prolonged ileus and failure to thrive—she was ultimately discharged one month post operatively without further complication or operative intervention.

Introduction

Abdominal Cocoon Syndrome, also known as sclerosing encapsulating peritonitis (SEP), is a rare cause of intestinal obstruction. It is characterized by either the partial or complete encasement of the small intestine by a fibrocollagenous membrane. While the exact etiology of this disease is not fully elucidated, previous abdominal surgery, history of peritonitis, intraperitoneal chemotherapy, peritoneal dialysis, ventriculoperitoneal shunt history and even the use of chlorhexidine for peritoneal lavage have all been cited as likely risk factors. We herein report 3 original cases of abdominal cocoon syndrome treated with operative intervention.

Discussion

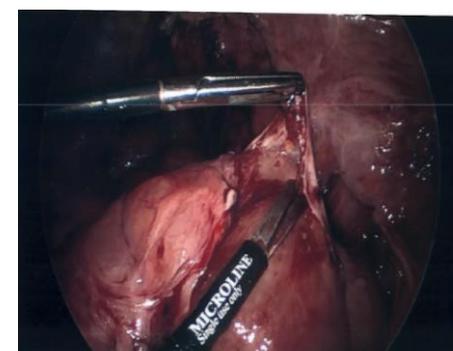
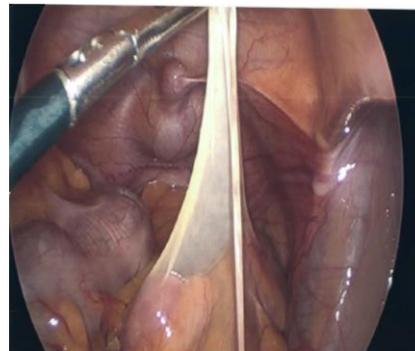
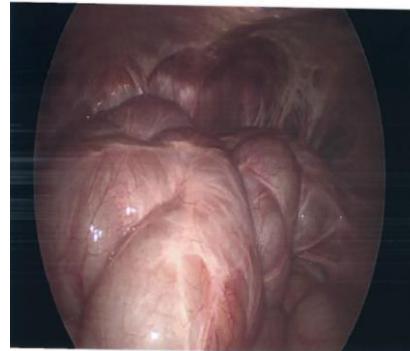
In our experience, despite the use of CT imaging and assessment of the clinical presentation, operative evaluation was ultimately the gold standard in establishing the diagnoses. A review of the literature suggests that adhesiolysis and excision of the fibrous membrane is the most appropriate treatment to ensure definitive resolution of symptoms—our case series suggests the same.

Conclusion

Abdominal Cocoon syndrome is a rare disease that is difficult to diagnose without a high degree of suspicion

We report our findings with 3 patients presenting with obstructive symptoms requiring operative intervention

Recognition and awareness of this syndrome will aid in more timely management of similar patients.



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Factors Determining Patient Discharge Destination after Pancreatectomy

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Introduction/Background:

Length of hospitalization after pancreatectomy is impacted by multiple factors including patient and surgery-related parameters. Post-pancreatectomy discharge to a skilled nursing center has been previously shown to negatively impact patient survival for benign and malignant pathology. We sought to identify perioperative factors that influence patient discharge destination following pancreatic resection.

Methods

Retrospective review - 247 patients who underwent pancreatectomy for pancreatic neoplasms at Advent Health Orlando between 2012 and 2018. Of these, 148 (60%) underwent open pancreaticoduodenectomy (OPD), and the remainder underwent minimally invasive distal pancreatectomy. Clinical parameters including; age, nutritional status, ICU admission, post-operative complications, and postoperative ability to ambulate were evaluated as factors that may influence discharge destination. Patients were divided into two separate groups; discharge home vs discharge to skilled nursing facility (SNF) for analysis. All patients underwent placement of a closed suction drain in the operative bed and none received somatostatin analogues. Continuous and categorical variables were analyzed utilizing Students T-test, Chi-square and Fisher's Exact test.

Results

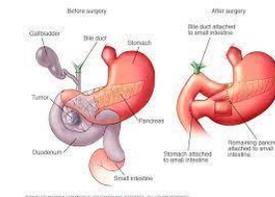
Demographics	Mean
Age	64.30 ± 12.79 years
Gender	125 (51%) Female
BMI	27.34 ± 5.1 kg/m ²
ASA ≥ 3	136 (55%) patients
Pre-op Albumin	3.80 ± 0.58 g/dL
Malignant pathology resected	133 patients (54.1%)
Length of stay	8.46 ± 5.29 days

Complications and Outcomes

Cardiac / Pulmonary / Thrombosis	Cardiac (n=7), pulmonary (n=1) and thrombotic events (n=4) occurred in 64 patients (26%)
DGE	27 (11%) OPD patients
Mortality (30 days)	2%
Pancreatic fistula	15 patients (6.1%) and
Blood transfusion	20 (8%)
D/c to nursing facility	(n=27, 11%), 26 (96%) had undergone OPD (p <.0001)

Conclusion

Factors predictive of DC destination:	P-value
Age > 74	p=<0.01
Pre op albumin < 3.4	p=<0.002
Blood transfusion	p=<0.001
Presence of a complication	p=0.05
LOS > 14 days	p= < 0.0001
Ability to ambulate greater than 150 ft	p=0.0014



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