

CR1. Abdominal Tuberculosis

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Background: Abdominal tuberculosis (ATB) comprises 5% of all tuberculous infections worldwide. Risk factors include cirrhosis, HIV, DM, underlying malignancy, malnutrition, treatment with anti-TNF agents, corticosteroids and continuous ambulatory PD. 1,2 We present a case of ATB in a patient with no identifiable risk factors.

Methods: Case: A 48 yo female with a history of hypertension presented with abdominal pain, distention, weight loss, and new onset ascites. Computed tomography revealed multiple loculated fluid collections, peritoneal thickening, and mesenteric nodularity concerning for peritoneal carcinomatosis. Endoscopy, diagnostic paracentesis, and tumor markers were unremarkable. Diagnostic laparotomy revealed diffuse nodularity, 7 mm thick peritoneum, and sclerotic omentum densely adhered to small bowel. Pathology was negative for malignancy but peritoneal fluid was positive for lymphocytosis, elevated adenosine deaminase (ADA) level at 93 U/L, and a positive AFB stain for mycobacterial cells, highly suspicious for ATB.

Results: Discussion: ATB involving the peritoneum, intestinal tract, hepatobiliary tree, pancreas, perianal area, or lymph nodes occurs via reactivation of latent TB or ingestion of TB mycobacteria. Symptoms include fever, weight loss, abdominal pain, distention, ascites, hepatomegaly, diarrhea, bowel obstruction, or an abdominal mass.³ Abdominal CT may reveal ascites, lymphadenopathy, and thickening of the mesentery, omentum, and peritoneum.⁴ Operative findings are nonspecific dense adhesions. Ascitic fluid in ATB is exudative with a leukocyte count between 150-4000 cells/mm³, ADA greater than 40 IU/L, and may stain positive or culture AFB. Sensitivity and specificity approaches 100% for an elevated ADA, compared to that of a positive stain (2%) or mycobacterial culture (20%). The principal biological activity of ADA is related to the proliferation and differentiation of T cell lymphocytes involved in a response of cell mediated immunity to mycobacterial antigens.¹⁰ Treatment parallels that of pulmonary TB with six months of multidrug therapy. Our patient had no identifiable risk factors.

Conclusions: ATB is rare in an immunocompetent patient. Given the prolonged time to return a positive AFB culture, mortality is high. The diagnosis requires a high index of suspicion in a patient with new-onset ascites, peritoneal thickening of unclear etiology, and negative malignancy workup. Multidisciplinary interactions with infectious disease and pathology may be beneficial.

CR2. Clostridioides difficile masked as a large bowel obstruction

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Background: Clostridioides difficile is an anaerobic, spore-forming, Gram-positive bacilli that releases potent exotoxins that targets the colonic epithelial cells. It's one of the most common causes of nosocomial infections of the GI tract in the United States. Of those infected with Clostridioides difficile, fulminant C. difficile colitis will occur in 3-8%. Fulminant C. diff is characterized by severe diffuse or lower quadrant abdominal pain, abdominal distension, hypotension, lactic acidosis, and up-trending leukocytosis. Possible complications include ileus, colonic perforation, and toxic megacolon.

Hypothesis: Patients who acquire clostridioides difficile have a possibility of developing large bowel obstruction.

Methods: 66 year old female with a history of diabetes mellitus, hyperlipidemia, hypertension, ESRD on hemodialysis, obstructive sleep apnea on CPAP, colonoscopy in 2020. Patient presented to the

emergency department complaining of rectal bleeding, abdominal pain, and no bowel movement or flatulence for 6 days. Her vitals were stable and she was afebrile. On physical examination, diffuse abdominal tenderness was elicited on palpation with abdominal distension and guarding. Of note, WBCs were elevated at 11.7, and RBCs, Hgb, Hct all decreased at 2.77, 7.6, and 24.3 respectively.

Results: Abdominal x-ray showed a distended large bowel and CT of the abdomen and pelvis revealed distended right and transverse colon with narrowing of distal descending and sigmoid colon. Patient was admitted to medicine and general surgery was consulted for suspected large bowel obstruction. A colonoscopy was performed and during the procedure, areas of patchy necrosis were seen with pseudomembranes which were highly suspicious for fulminant *C. difficile*. Given the nature of necrotic bowel seen on colonoscopy, an exploratory laparotomy and subtotal colectomy with end ileostomy were performed.

Conclusions: Patient was transferred to the SICU for post-op management with a course of antibiotics for pseudomembranous colitis. Fulminant *C. difficile* is a rare occurrence of clostridioides *difficile* and is seen in very few patients. Risk factors include recent antibiotic use, old age >65 years, and recent hospital stay. Given the nature of this patient's presentation, large bowel obstruction was identified. However, the culprit for this patient's LBO was fulminant *C. difficile*. In most cases, *C. difficile* complication includes ileus, colonic perforation, and toxic megacolon. So this instance of large bowel obstruction is a rare occurrence.

CR3. Heterotopic Mesenteric Ossification (HMO): A Rare Complication of Tertiary Peritonitis Following Penetrating Trauma

Philip Barie; Mayur Narayan; Lynn Hydo; Caitlin Egan

Background: HO, the reactive formation of bone in soft tissue, was described in an abdominal scar by the Swiss-German pathologist Max Askanazy in 1901. It is associated with trauma/burn injuries, usually orthopedic, specifically hip/pelvis injury. We describe a rare case of HMO after post-traumatic tertiary peritonitis.

Methods: A 40-year-old man presented with penetrating right flank trauma due to impalement by industrial shears after a fall from height. Massive hemoperitoneum from lacerated mesocolon and near-transection of the right renal vein required damage control laparotomy and right nephrectomy/colectomy. 2 d later, ileocolostomy was performed. Abdominal wall closure on postoperative day (POD) 4 included bilateral rectus abdominis flaps, and synthetic mesh in the retro-rectus space. On POD 10 after the index case, a CT scan for tachycardia/leukocytosis showed mesenteric enhancement and peri-anastomotic fluid. After unsuccessful percutaneous drainage (PD), he underwent washout/drain placement via a right flank incision, and parenteral nutrition. After PD again, one month later, after which he stabilized for 3 mos. 5 mos after injury, CT showed extensive mesenteric calcification (Fig. 1) Loop ileostomy through the prior midline incision/mesh. Multiple firm, sharp, calcified deposits in the abdomen and mesentery represented HMO (Fig. 1.) There was no incisional HO. Adhesiolysis and subtotal resection of HMO was performed. (Fig. 2). After protracted recovery, the ileostomy was closed.

Conclusions: The pathogenesis of HMO is not well delineated. Serum alkaline phosphatase (sALP), a marker of osteogenesis, is elevated early during HO formation, Here, a normal admission sALP of 62 IU/L (normal, 41-133 U/L), peaked at 414 IU/L 3 wks after initial injury (Fig. 2). The molecular pathway leading to ectopic bone deposition in the abdomen is unknown, but may be a synchronous polymorphism in the causative gene (ACVR1/ALK2) for fibrodysplasia ossificans progressiva (a known genetic cause of HO). To our knowledge, this is only the second case reported of HO

associated with tertiary peritonitis.

CR4. Management of surgical site infection after percutaneous tracheostomy

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Background: Tracheostomy creation is considered a clean, contaminated surgery. The incidence of tracheostomy infection is approximately 5% and typically develops after 24 hours post-procedure. The incidence of infection is lower with percutaneous techniques compared to an open approach, however, the percutaneous technique leaves little room for spontaneous drainage should a purulent infection develop.

Results: A 39-year-old male presented to our Level I trauma center after an unknown mechanism with evidence of blunt head trauma. Upon arrival, he was noted to have a subdural hematoma requiring craniotomy. He remained intubated post procedure. Due to inability to wean from the ventilator, he required tracheostomy placement. The day prior to placement, he was febrile to 103.3 degrees Fahrenheit. Cultures were obtained. At the time of surgery, he had thick, malodorous tracheal secretions and was started on antibiotic therapy for ventilator-associated pneumonia. A percutaneous tracheostomy was performed in the usual fashion. On post-operative day 3, the patient developed diffuse neck swelling. Computed tomography imaging revealed neck edema with no hematoma or extravasation. The patient was taken to operating room and underwent endotracheal intubation, removal of tracheostomy, and neck wound exploration, which revealed a large neck abscess that was explored and drained. He was placed on broad-spectrum antibiotics and treated with frequent dressing changes. Two days later, he underwent repeat neck exploration, debridement, and tracheostomy revision with the assistance of otorhinolaryngology. He completed a course of antibiotics and had resolution of the infection with eventual discharge home with tracheostomy in place.

Conclusions: It is crucial to monitor tracheostomy wounds in the immediate post-operative period, particularly if there is ventilator-associated pneumonia at the time of placement, which can result in bacterial seeding of the tracheostomy wound at the time of operation. In rare cases of tracheal and associated soft infections, patients require prompt surgical drainage, debridement, and antibiotic therapy.

CR5. Association Between Bariatric Surgery and Gallbladder Hyperkinesia: A Case Report and Review of Management Strategies

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Background: In treating severe obesity, bariatric surgery has been beneficial in improving or resolving metabolic comorbidities such as type II diabetes mellitus, and increasing life expectancy. Although bariatric surgery affects the stomach and intestines, it is also inadvertently affects the gallbladder. The incidence of gallbladder disease post bariatric surgery is maximal during the period of rapid weight loss. With the most common complications being the formation of gallstones due to rapid weight loss involving cholesterol supersaturation of bile and gallbladder hypomotility secondary to decreased cholecystikinin secretion related to the hypocaloric diet. Gallbladder hypomotility, biliary dyskinesia, is a common gallbladder functional disorder defined by an ejection fraction (EF) of less than 35% on cholecystikinin HIDA scan. It is standard to perform a cholecystectomy in the management of this condition with effective results. However, there is a paucity in research and management of patients with biliary colic symptoms and high gallbladder ejection fraction post bariatric surgery. This case study highlights the associations between bariatric surgery and the development of gallbladder hyperkinesia in the early post-operative period as well as the

management strategy.

Hypothesis: The use of laparoscopic cholecystectomy on post bariatric patients with biliary colic symptoms and high gallbladder ejection fraction will provide symptomatic relief and complete resolution.

Methods: We present a case of a thirty seven year old female with a past medical history of morbid obesity (BMI 47 kg/m²) presented to the emergency department with nausea, vomiting, right upper quadrant pain, constipation, and anorexia. One month prior to her presentation, she underwent a laparoscopic sleeve gastrectomy. She stated she had been unable to tolerate most liquids and foods since her procedure. After extensive workup for her pain, the patient underwent a laparoscopic cholecystectomy as a management technique currently utilized for hypokinetic gallbladder and gallstones.

Results: The patient's initial workup was essentially normal except for the cholecystokin 99m technetium-labeled hepatoinodiacetic acid (CCK-HIDA) scan finding of gallbladder ejection fraction of 87%. Patient endorsed complete resolution of symptoms after receiving a laparoscopic cholecystectomy.

Conclusions: A rare occurrence, the hyperkinetic gallbladder, can cause debilitating abdominal pain, nausea, and anorexia. Our patient had an excellent response to cholecystectomy. It is concluded that patients with biliary colic and gallbladder EF of 80% or higher should be strongly considered for cholecystectomy.

CR6. Sacral Decubitus Ulcer as an Unusual Presentation of a Necrotizing Soft Tissue Infection

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Background: Introduction: Necrotizing soft tissue infections (NSTIs) include a broad spectrum of infections that can cause significant morbidity and mortality in patients. Difficulty diagnosing and the rapidly progressive nature of NSTIs make treatment particularly difficult and outcomes devastating. Although pressure sores and ulceration that develop in bed bound and critically ill patients are common, development of chronic ulcers into NSTIs are exceedingly rare. There is limited literature available on pressure ulcers presenting as a NSTI.

Results: Case description: This is a case of a 69-year-old African American female with a past medical history of insulin dependent Diabetes Mellitus, dementia, and coronary artery disease presenting from an assisted living facility with severe sepsis secondary to a large stage 4 sacral ulcer with purulent discharge and a foul smell. The patient was administered broad spectrum antibiotics for septic shock and urgently taken for operative debridement of the 20x21x5cm NSTI down to the sacrum. She remained intubated on maximal vasopressor therapy in the ICU. A second look procedure for additional debridement was performed 36 hours following initial debridement. Surgical cultures identified multiple Gram-Negative Bacilli and Blood cultures grew *Morganella morganii* and *Proteus mirabilis*. The patient continued to deteriorate until she expired 6 days after being admitted.

Conclusions: Discussion: This case demonstrates the difficulty in early recognition of NSTIs in chronic pressure ulcers and the consequences of delay in care.

CR7. Acute Perforation of a Prior Small Bowel Anastomosis Secondary to CMV Enteritis in a Newly-Diagnosed AIDS Patient

Cris Malino; Brian Diskin; Weiguo Liu

Background: Poorly controlled human immunodeficiency virus (HIV) infection can result in progression to acquired immunodeficiency syndrome (AIDS). Opportunistic infection in AIDS patients can be severe, resulting in life-threatening encephalitis, meningitis, retinitis, esophagitis, and enteritis.

Hypothesis: N/A

Methods: Here, we describe the unusual case of a 50 year-old male with newly diagnosed AIDS presenting to the ER with pneumoperitoneum and sepsis secondary to perforation at his prior small bowel anastomotic site due to Cytomegalovirus.

Results: While undergoing workup for weight loss, an EGD revealed esophageal ulcerations. Biopsies were consistent with CMV. Serum CMV showed 1,319 copies/mL. These findings were followed with a positive HIV-1 antibody test. Notably, the patient had a history of a small bowel obstruction, 35 years prior, requiring exploratory laparotomy, small bowel resection and ostomy creation (status post subsequent reversal). He presented to our urban academic medical center with abdominal pain and fevers and was found to have pneumoperitoneum and perforation of his prior small bowel anastomosis. After resection and ileostomy formation, the pathology revealed active CMV on immunohistochemical stains.

Conclusions: The report includes relevant and imaging and literature review on this rare presentation. In patients with immunosuppression, CMV related perforation should be considered amongst surgeons and pathologists. Infectious disease specialists should be included in treatment.