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Case Report

Streptococcus bovis as a Cause of Spontaneous Bacterial Peritonitis (SBP) and the Role of Colonoscopy

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Introduction

Spontaneous bacterial peritonitis (SBP) is an infection of ascitic fluid in the absence of any intra-abdominal, surgically treatable source of infection with a reported incidence in ascetic patients of up to 30%. Bacterial translocation is believed to be the mode of infection with the most common pathogens being enteric pathogens, including *Escherichia coli* (~70%), *Klebsiella* species (~10%), *Proteus* species, *Enterococcus faecalis* (~4% each), *Pseudomonas* species (~2%) and others (~6%) [1]. Streptococcus bovis as an isolate of ascetic fluid is uncommon and less than 20 cases have been reported in the literature [2]. We describe a case of streptococcus bovis SBP and consider the role of colonoscopy in these patients.

Case Report

This is the case of a 51-year-old Hispanic female with Child C cirrhosis secondary to alcohol abuse who presented with abdominal pain and associated fevers and chills. The patient had been following in the interventional radiology clinic for weekly therapeutic paracentesis, with the last paracentesis being 2 days prior to presentation. On presentation, her temperature was 99.1 ^{0}F. Her labs were remarkable for Hgb 10, white blood cells 8.9 with 93% neutrophils. AST was 17, ALT 10, alkaline phosphatase 201, total bilirubin 1.13, direct bilirubin 0.6, total protein 6.4, and albumin 2.8. The patient underwent paracentesis in the emergency department. Due to concern of possible perforation secondary to a previous paracentesis, intravenous pipperacillin-tazobactam was started. CT abdomen and pelvis was ordered and showed no perforation. Ascetic cultures grew isolates of streptococcus bovis. Pipperacillin-tazobactam was discontinued and patient was switched to IV nafcillin. Gastroenterology planned for endoscopy and colonoscopy as screening and secondary to the isolated species. Endoscopy showed four esophageal varices, which were banded successfully. Colonoscopy showed rectal varices and 1 cecal polyp, which was biopsied and returned as an adenomatous polyp.

Past Medical History

This patient had been following at Lincoln Hospital since 2017 when she presented with abdominal pain and was diagnosed with cirrhosis. During that admission, the patient developed hemoptysis, for which she underwent endoscopy showing portal hypertensive gastropathy without varices. On discharge, the patient went to an inpatient alcohol rehabilitation center. Serologies for hepatitis A, B, and C were negative and she was started on vaccinations as outpatient. The patient was discharged on spironolactone 200mg daily, furosemide 80 mg daily, and 2 g Na diet. The patient had two admissions following secondary to decompensated cirrhosis secondary to medication noncompliance. During an admission in 2018, a pigtail catheter was placed for drainage of large volume ascites. Ascetic cultures from that paracentesis were growing staphylococcus aureus for which patient was treated with removal of drain and antibiotics (3 doses of vancomycin 1 gram and 10 days of clindamycin 300mg 6hr for 10 days). Of note, patient was discharged on PO clindamycin due to patient signing out against medical advice. In early 2019, the patient was planned for TIPS, which failed secondary anatomical difficulties. The patient was then referred to a liver transplantation center.

Discussion

The strong association between streptococcus bovis bacteremia and concomitant colorectal cancer has been well established [3]. A case of colonic neoplasm has been reported in a patient with streptococcus bovis SBP [4]. What has yet to be determined is the role of colonoscopy in patients with streptococcus bovis in ascetic fluid. Multiple factors must be considered including ability of patient to undergo colonoscopy given their current clinical state. More studies must be performed to evaluate the association between streptococcus bovis in ascetic fluid and the incidence of colorectal malignancy. From our experience, our patient was not found to have colorectal cancer by colonoscopy, however if the patient is able to undergo colonoscopy, it remains a valuable tool for diagnosis in the setting of the isolated bacterium in peritoneal fluid.

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