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SPHINGOBACTERIUM MULTIVORUM CAUSING A SPONTANEOUS BACTERIAL PERITONITIS IN A CIRRHOTIC PATIENT : A CASE REPORT

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Introduction:

Spontaneous bacterial peritonitis (SBP) is one of the common complications of end-stage liver disease (ESLD) with high morbidity and mortality rates. It complicates about 15-20% of all cases of decompensated ESLD with the associated mortality rate reaching about 10-46% . Its mechanism involves the inadvertent translocation of bacteria from the bowel to the peritoneal cavity in the absence of non-surgical etiologies. Portal hypertension with ascites, especially in cirrhotic patients, is an important predisposing factor . Enteric gram-negative rods are the usual culprits in about 90% of cases with the most common being *Escherichia coli* and *Klebsiella pneumoniae* . *Sphingobacterium* species are exceedingly uncommon causative agents.

To our knowledge, no case of *S. multivorum* causing peritonitis in cirrhotic patients has been reported. We report the case of patient in his late 67s with liver cirrhosis who presented with ascites in whom *S. multivorum* in was isolated from ascitic fluid

Case presentation

A 67-year-old woman with chronic obstructive pulmonary disease and hypertension had been admitted for the management of grade 3 hepatic encephalopathy at the gastroenterology department. On physical examination, her vitals were within normal limits. She was awake and oriented but appeared lethargic; the abdomen was distended and mildly tender. The patient's blood was taken for analysis, including blood cultures. The laboratory data revealed hemoglobin of 9 g/dL and a white blood cell count of 19.06 g/dL; the platelet count was 177 000/uL, creatinine 251 umol/L, sodium 119 mEq/L, potassium 6.5 mEq/L, aspartate aminotransferase 63 U/L (<34), alanine transaminase 24 U/L, total bilirubin 16 umol/L, and albumin of 24g/L. The viral hepatitis panel was non-reactive for hepatitis A, B, and C. Abdominal CT was also obtained at presentation, which showed a small, nodular-appearing liver compatible with cirrhosis with a large volume of ascites throughout the abdomen and pelvis. Paracentesis was performed under sterile conditions within 24 hours of admission, draining about 3 liters of ascitic fluid, which was assessed for biochemistry, cytology, and microbiology (Table 1). For microbiology, the peritoneal fluid was incubated under anaerobic and aerobic conditions and then on blood, chocolate, and Drigalski agar plates, as well as in cooked meat medium for two to seven days. Non-hemolytic, light yellow, catalase- and oxidase-positive colonies were noted on blood agar and limited growth on Drigalski agar plates. The only isolate was *S. multivorum* identified using the VITEK 2 Gram-Negative Identification card. No other colonies were present, and there was no growth under anaerobic conditions. It was sensitive to piperacillin/tazobactam, cefepime, cefotaxime, ceftazidime, meropenem, imipenem, amikacin, levofloxacin, and ciprofloxacin. Cefotaxime therapy (1 g three times per day for 14 days) was followed by rapid improvement and resolution of symptoms. Control cultures after treatment were negative.

Ascitic fluid	Results
Color	Pale yellow
Appearance	Cloudy
WBC	1952 cells/uL
Neutrophilic count	99%
Lymphocytes	1%
Ascitic protein	0.9 g/dL

Table 1 : Ascitic fluid analysis
WBC: white blood cells;

Conclusion

This case report of *S. multivorum* described an uncommon gram-negative organism as a potential cause of SBP in cirrhotic patients with ascites, further contributing to the studies on a number of uncommon but clinically significant infections caused by this organism. Individualized therapy based on susceptibility data is critical considering the varied drug resistance and sensitivity patterns observed in diverse strains. This case emphasizes the importance of maintaining a high index of suspicion for SBP by gram-negative organisms in patients with ascites. The information given in our case may be helpful in broadening our knowledge about infections with such bacteria. As these bacteria are rarely causative, though they have the capability to cause infection in immunocompetent individuals, hence these bacteria cannot be fully ignored.