Photo Quiz: Bacteremia in a Patient with Hepatic Encephalopathy

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A 65-year-old male with end-stage liver disease secondary to alcoholic cirrhosis was admitted to Emory University Hospital after experiencing progressive lethargy and displaying combative behavior. The patient was diagnosed with hepatic encephalopathy as well as hepatorenal syndrome. Inpatient work-up indicated that the patient was an appropriate liver transplant candidate, but he developed refractory hypotension within days of being placed on the transplant list. Although the patient was afebrile, the clinical team collected peripheral blood cultures (one set) to rule out bacteremia as a cause of the patient's hypotension.

Three days after collection, the patient's anaerobic blood culture signaled positive (BacT/Alert SN standard anaerobic bottle; bioMérieux, Durham, NC) and the Gram stain revealed aggregates of curled and tightly coiled Gram-positive rods. Aerobic, anaerobic, and thioglycolate broth subcultures were inoculated. Three days later, smooth, circular, convex, semiopaque, gray-white, nonhemolytic colonies were observed growing on brucella agar with hemin and vitamin K (ABAP) and phenyl ethyl alcohol agar (PEA) under anaerobic conditions. A Gram stain of the colonies demonstrated organisms with morphologies similar to those seen in the blood culture, but in smaller aggregates (Fig. 1).

Ascites fluid cultures obtained the same day as the initial blood culture showed no aerobic or anaerobic growth. One set of blood cultures obtained 2 days after the initial blood culture also showed no growth.