

Case Blog

Title: Turbid Fluid in Peripheral Venous Catheter as a Sign of Bacterial Growth Causing Blood Stream Infection by *Bacillus Cereus*

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Figure 1: The white turbid crowding (white arrows) of the fluid containing amino acids inside the catheter tube and the turbid fluid showed Gram-positive bacilli with spore formation (black circle).

Abstract

Turbid fluid in peripheral venous catheter placed in a 42-year-old Japanese man was identified on the same day of the development of sepsis in this patient during the hospitalization. Cultures of both fluid and blood cultures grew *Bacillus cereus*. Turbid fluid in peripheral venous catheter should be considered as a sign of bacterial growth causing blood stream infection.

Text

A 42-year-old Japanese man with head injury was brought to the emergency department and he was successfully operated because of the epidural hematoma. However, on postoperative day 18, the patient developed fever of 38.8 degrees Celsius with tachycardia and tachypnea and received empiric parenteral antimicrobials including vancomycin and ciprofloxacin for possible sepsis. Four days later, all the double sets of blood cultures, which were obtained before initiating the antimicrobials, grew *Bacillus cereus*. On the same day, a nurse found a white turbid crowding in the fluid containing amino acids inside a catheter tube (Figure 1, white arrows), which was placed in the peripheral vein of the patient. The catheter was removed and sent to the microbiology laboratory of this hospital. The Gram stain exam of the turbid fluid showed Gram-positive bacilli with spore formation (Figure 1, black circle) and this was eventually confirmed as *Bacillus cereus* by the microbiologic culture results from the fluid as well as the infusion bottle. Nutritional fluid containing amino acids can be a source of *Bacillus cereus* bacteremia [1]. Catheter-associated blood stream infection should be considered in patients with bacteremic fever with *Bacillus cereus*, which was previously noted as a common innocent contaminant [2]. *Bacillus cereus* can grow rapidly in PPN solutions consisting of amino acids, glucose and electrolytes [3].

References

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