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A Case Report Of Brevibacterium Sanguinis Peritoneal Dialysis-Associated Peritonitis

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Case Study : Brevibacterium sanguinis was first described in 2004 as gram-positive rods, isolated from human. We reported the first known case of peritonitis caused by B. sanguinis in a patient receiving peritoneal dialysis (PD). Our patient is a 47-year-old gentleman with end stage kidney disease (ESKD), who had been doing continuous ambulatory PD (CAPD) for six months. He was admitted with chief complains of cloudy peritoneal effluent with abdominal pain for two days. His peritoneal dialysate was collected for culture and biochemistry prior to antibiotics administration. The total dialysate leucocyte count was 200 cells/mm^3. There was no response to first line intraperitoneal antibiotics. The peritoneal dialysate culture yielded B. sanguinis. He was then switched to intraperitoneal vancomycin. The symptoms resolved and his peritoneal dialysate was cleared. He completed three weeks of intraperitoneal vancomycin and had been doing well since then. The lab received peritoneal fluid for culture & sensitivity. Blood agar grew greyish-white opaque colonies of Gram-positive bacilli which were beta-haemolytic, positive for catalase, while negative for oxidase. MALDI-TOF (Vitek MS) identify as Brevibacterium sanguinis with score of 99.9%. Our isolate was deemed susceptible to all antibiotics tested; meropenem, vancomycin, ceftriaxone except penicillin. Presently, the genus Brevibacterium consists of 45 different species, however, only 9 have been isolated from clinical samples. Out of only overall 6 Brevibacterium species PD-related peritonitis reported worldwide, none was caused by B. sanguinis. As B. sanguinis has a high biochemical similarity to B. casei, there could be misidentification in other reported cases. In conclusion, we reported the first known case of PD-related peritonitis caused by B. sanguinis, which was treated successfully with intraperitoneal vancomycin. Nephrologists and microbiologists should have high clinical suspicion of this microorganism as its accurate and early identification will lead to timely treatment, ultimately avoiding the removal of peritoneal dialysis catheter.

Brevibacterium blood agar-2.jpg

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