Bacteraemia by *Achromobacter denitrificans* in Hemodialysis

Sir,

Achromobacter denitrificans is a ubiquitous gram-negative bacterium.[1] Metabolically, it is a strictly aerobic, non-fermenting, mobile, catalase-positive and oxidase-positive bacterium.[2] *A. denitrificans* inhabit soils and aquatic environments, including well water, intravenous fluids and water in humidifiers, occasionally being part of the normal flora of some parts of the body and rarely a causal agent of human infections.[1,2] Here, we present the first case of central venous catheter-related bacteraemia on hemodialysis due to A. denitrificans.

A 29-year-old male, hypertensive and with chronic kidney disease of 11 years of duration. After a hemodialysis (HD) session with a single central venous catheter, he developed fever for 3 weeks followed by HD catheter-associated bacteraemia. On physical examination, the presence of a systolic mitral murmur g II/VI stands out. His laboratory results were: Haemoglobin 12 g/dL, blood urea 124 mg/dL, serum creatinine 17.2 mg/dL, leukocytosis (10,200 cells/µL) with neutrophilia (74%), glucose 87 mg/dL, viral panel was non-reactive for Human Immunodeficiency Virus, Hepatitis B and C; liver function tests and serum electrolytes were normal. Central and peripheral blood culture reported *Achromobacter* denitrificans isolation through the BioMérieux VITEK-2® system; the sensitivity profile based on the minimum inhibitory concentration was: Cefuroxime 8 g/mL, cefotaxime <1 g/mL, ceftazidime <1 g/mL, ceftriaxone <1 g/mL, cefepime <1 g/mL, meropenem 0.0.25 g/mL, amikacin <2 g/mL, gentamicin <1 g/mL, ciprofloxacin 0.0.25 g/mL, norfloxacin-0.5 g/mL and trimethoprim with sulfamethoxazole <20 g/mL; resistant to cephalotin and phosphomycin.

The transthoracic echocardiogram reported a vegetation of 5 × 2 mm in the tricuspid valve and the catheter tip in the right atrium presented a second vegetation of 7 × 5 mm, but the transoesophageal echocardiogram did not show any evidence of vegetations or thrombi. Left ventricular ejection fraction was 70%, left ventricular diastolic dysfunction, moderate mitral insufficiency and slight tricuspid were reported. Our patient did not have the classic risk factors for catheter-related bacteremia, that is, he was not diabetic or geriatric and his albumin was normal, so the main risk factor for infection in this case was the presence of a central venous catheter for HD.

Previous reports have identified *A. denitrificans* in peritonitis[3] or in peritoneal dialysis catheter exit site infection,[4] but there are no reports linking it to catheter infection. We consider that the catheter was contaminated by the antiseptic used and/or some mishandling by the staff, since being an isolated case, with no outbreak in the unit, contamination of the dialysis fluid and multi-dose bottle heparin would be ruled out as sources. The HD catheter-associated bacteremia in our patient was successfully resolved using a fluoroquinolone-based antibiotic regimen for 14 days, with good clinical response and no catheter removal. In addition, there was no recurrence of symptoms after 4 sessions of HD.

To our knowledge, this is the only report describing *A. denitrificans* HD catheter-associated bacteraemia. *A. denitrificans* infections are rare, but increasingly frequent in dialysis patients, emerging as an opportunistic germ, so preventive measures should be reinforced.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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