

## Gangrene and bacteremia due to *Corynebacterium jeikeium* in a patient on maintenance hemodialysis

Sir,

A 62-year-old lady with type 2 diabetes mellitus and hypertension had end-stage renal disease and was on maintenance hemodialysis for the past 13 years. She presented with sudden onset of spreading infection of the skin and soft tissue of the right upper limb involving the digits, hand, and wrist. The portal of entry could not be identified. It appeared to be an unnoticed minor traumatic break in the skin. At presentation, she was febrile, in altered sensorium and dyspneic. Examination revealed temperature 102°F, blood pressure 90/60 mmHg, pulse: 110 beats/min. Respiratory system examination revealed tachypnea with bilateral normal vesicular breath sounds and cardiovascular examination revealed sinus tachycardia with no adventitious sounds. Local examination of right upper limb showed crepitus at the wound site with spreading gangrene [Figure 1]. After admission, she required mechanical ventilation and ionotropes.

Investigations revealed hemoglobin 7.3 g/dl, total leucocyte count 10,800/cumm, differential leukocyte count N76%, E2%, L19%, M3%, arterial blood gas analysis, pH 7.33, PaO<sub>2</sub> 56 mmHg, HCO<sub>3</sub> 18 mmHg, random blood glucose: 133 mg/dl, serum creatinine 7.2 mg/dl, blood urea 99 mg/dl, serum sodium 134 mEq/L, potassium 5.4 mEq/L, serum calcium 8.4 mg/dl, serum phosphorus 3.1 mg/dl, serum uric acid 5.1 mg/dl. The discharge from the wound on staining and subsequent culture revealed *C. jeikeium*.



Figure 1: Gangrenous changes involving the right hand extending to fore finger with swelling and cyanosis

The blood culture has shown the growth of *C. jeikeium*. The skiagram of the right hand showed extensive digital vascular calcifications [Figure 2] and no suggestion of osteomyelitis. She was started on injection vancomycin 15 mg/kg for every 3 days. She received two doses. She was continued on maintenance hemodialysis. Her condition deteriorated in spite of treatment, and she succumbed to sepsis after 6 days of admission.

*Corynebacterium jeikeium*, a rod-shaped, catalase-positive, aerobic species of actinobacteria, is commonly colonized at the perineum, rectum and in intertriginous areas. It is particularly encountered in hospitalized patients.<sup>[1,2]</sup>

It is multidrug resistant. It often requires vancomycin for treatment.<sup>[3]</sup> The manifestations include skin (48%) and lung (36%) infections in patients of hematologic malignancies, endocarditis in patients with prosthetic valves, ventricular cerebrospinal shunts and peritonitis in peritoneal dialysis patients. There was a report of *C. jeikeium* causing bacteremia in a patient of hemodialysis.<sup>[4]</sup> The primary skin lesions due to *C. jeikeium* include papular eruption, cellulitis, subcutaneous abscesses, tissue necrosis, hemorrhagic pustules, and palpable purpura.<sup>[5]</sup>

Patients with devitalized tissue or immunological impairment are found to be more susceptible to infection.<sup>[6]</sup> Due to the fact *C. jeikeium* forms part of the commensal flora, it is important to exercise absolute judgment in finding out their clinical significance in certain situations, as failure to do so may be catastrophic.<sup>[4]</sup> In the only published report *C. jeikeium* bacteremia in a hemodialysis patient, the portal of entry appeared to be the subclavian catheter and the same bacterium was isolated from more than one specimen (subclavian venous catheter and peripheral vein).<sup>[4]</sup> We found in our patient of long standing diabetes mellitus,

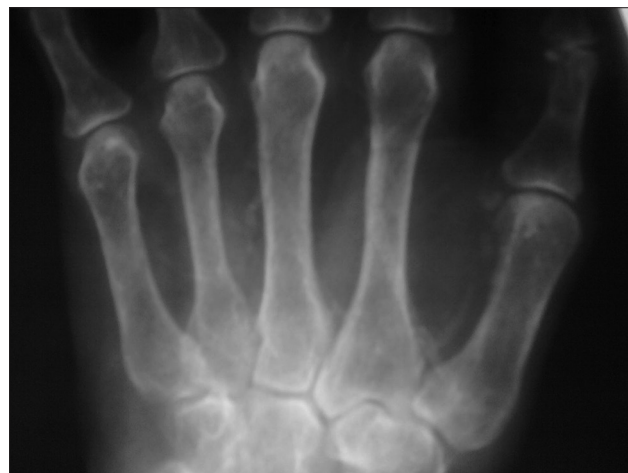


Figure 2: Radiograph showing diffuse calcification of digital arteries and soft tissue swelling

end-stage renal disease on maintenance hemodialysis and vascular calcification of digital arteries a spreading gangrene involving her right hand secondary to an unusual pathogen.

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