diabetic foot osteomyelitis

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Background: In common with other coryneform species, *Corynebacterium striatum* colonizes the skin and mucous membranes of normal hosts, and is one of the more frequent corynebacteria isolated in the clinical laboratory. However, its clinical significance is often unclear as it can be difficult to distinguish between colonization and infection. Most reported cases of *C. striatum* infection are of endocarditis, pulmonary infection or are associated with prosthetic devices. We observed a number of cases of diabetic foot osteomyelitis in our hospital from which a heavy, pure growth of *C. striatum* was isolated from tissue or fluid samples.

Methods: A review of the medical literature was carried out and did not suggest *C. striatum* was a recognised cause of diabetic foot infection. We identified all pure cultures of *C. striatum* grown in our laboratory from tissue and fluid samples. We carried out a review of the patients' medical notes recording details of past medical history, antimicrobial history including changes made upon isolation of *C. striatum* and the clinical outcomes following appropriate therapy.

Results: Three tissue cultures and one fluid culture of *C. striatum* were identified. The three tissue cultures were from patients with diabetic foot osteomyelitis. The fluid sample came from a deep washout of a diabetic foot ulcer with underlying osteomyelitis, and the growth was both heavy and pure. The four patients were male, and had a mean age of 76 years, and all had a diagnosis of insulin dependent diabetes. They were all were treated successfully with targeted antimicrobial chemotherapy, and followed up for at least eight months posttreatment, with no evidence of disease recurrence.

Conclusion: We report 4 cases of *C. striatum* osteomyelitis of the foot in patients with diabetes mellitus. We suggest that where *C. striatum* is isolated in pure culture from tissue samples from diabetic feet, it should not be discounted as contaminating flora but considered as a genuine cause of infection.

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The rising concern of community-acquired methicillin-resistant *Staphylococcus aureus* central nervous system infections: 2 case reports

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Background: The increasing incidence of community-acquired methicillin-resistant *Staphylococcus Aureus* (CA-MRSA) central nervous system (CNS) infections in healthcare settings is concerning and may warrant a reappraisal of current treatment guidelines.

Case 1: A 32 year old man presented with recurrent seizures. Besides recurrent headaches, there were no associated symptoms. Physical examination and labs were normal. CT scan of the brain showed a hypodense left parietal lobe mass. However once seizures controlled, he insisted on early discharge. He was readmitted 12 days later with recurrent seizures. Repeat imaging showed a significant increase in the size of brain mass. The patient was taken to OR for emergent excision of the mass which revealed a brain abscess which grew methicillin-resistant *Staphylococcus aureus* (MRSA) with antibiotic susceptibility consistent with a CA-MRSA. The patient was treated postoperatively with intravenous vancomycin on which he recovered completely with resolution of the abscess.

Case 2: A 67 year old man was admitted with fever, facial swelling, altered mental status, hypotension and tachypnea needing pressers and intubation. He had presented to ER 5 days earlier with facial swelling and was discharged with impression of angioedema. Admission labs showed leukocytosis, Brain CT scan revealed cavernous sinus thrombosis and CSF analysis showed leukocytosis, high protein and low glucose. His Blood and CSF cultures grew MRSA and Pulse Field Gel Electrophoresis showing Type USA 300. The patient on treatment had a complicated and prolonged hospital course.

Conclusion: Community-acquired MRSA (CA-MRSA) is now firmly established as a worldwide, community prevalent infection. It's now increasingly recognized as an organism with invasive potential causing an ever-increasing spectrum of diseases. Only three previous cases of CA-MRSA brain abscess and CA-MRSA meningitis with Cavernous sinus thrombosis have been reported respectively. Both our patient's had a benign initial presentation. In contrast to all fatalities in previous brain abscess cases, our patient had a complete recovery on treatment.

The increasing appearance of life threatening CA-MRSA, CNS infections in healthcareassociated settings and the difficulties in readily identifying risk factors warrants measures to increase awareness and a reappraisal of current emperic treatment guidelines for Community Acquired Brain Abscess.

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A scoring system for severity of disease associated with mortality for *Clostridium difficile* associated disease

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Background: Clostridium difficile associated disease (CDAD) has been an increasing problem and a burden in our healthcare system which is estimated to be over a billion dollars per year in the United States. The increasing severity of disease has been described in previous literature attributed to the BI/NAP1 gene or ribotype 027. There have been several scoring indices used for CDAD studies such as Modified Horn's Index and APACHE II score. We designed a study to stratify by severity of disease over a period of time and develop a new scoring system.