Case Report

Exit site infection due to Zygomycosis resulting in abdominal wall necrosis in a continuous ambulatory peritoneal dialysis patient

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A 52-year-old gentleman, type 2 diabetic and hypertensive was initiated on continuous ambulatory peritoneal dialysis (CAPD) in August 2004. He was partially blind in both eyes owing to diabetic retinopathy. He had also been confined to bed for the past 2 months, due to severe sensorimotor peripheral neuropathy. His wife and son were performing the exchanges, three per day with 2.5% dextrose solution of Dianeal (Baxter India Pvt Ltd, New Delhi). He had Kt/V of 1.8 per week and a urine output of 350–500 ml/day. He had suffered an episode of peritonitis in September 2005. Methicillin-sensitive coagulase negative staphylococci was identified at that time. He was injected with vancomycin 1 g IP once in every 5 days (three doses were given) and with ceftriaxone 1 g IP in the longest CAPD exchange for 14 days. In December, the dermatologist of our Institute diagnosed him with infected scabies, when he presented with complaints of overall body itching. He had burrows and infected scratch marks all over his body. He was prescribed permethrin, liquid paraffin and gamma benzene hexachloride soap. In the last week of the same month, he presented to us with erythema and blackening of the skin, starting initially around the exit site and the tunnel and spreading to the entire anterior abdominal wall in a week, resulting in full thickness necrosis and sloughing, exposing the rectus and other anterior abdominal muscles (Figure 1 and 2). He also complained of abdominal pain, cloudy effluent of 1-day duration, vomiting of 3-day duration. The results of investigations done were: haemoglobin, 7.1 g/dl; blood urea, 91 mg/dl; creatinine, 5.1 mg/dl; serum proteins, 5.6 g/dl; serum albumin, 1.7 g/dl. The CAPD catheter was removed. The catheter tip culture showed the growth of zygomycetes. The histopathology of the specimen from wound tissue also revealed the growth of zygomycetes. Detailed mycological identification was not possible at our institute. The patient was initiated on haemodialysis and twice a day cleaning and dressing of the wound with Edinburgh University solution of lime (EUSOL), as is the practice at our institute, and amphoterin. EUSOL is a solution of calcium hypochlorite containing not less than 0.25% w/v of available chlorine buffered with boric acid to a pH of 7.5–8.5. After 3 weeks of treatment, the signs of peritonitis subsided. When the plastic surgeon contemplated thorough debridement under general anaesthesia, the patient’s general condition was so deteriorated owing to malnourishment that his son refused further treatment and he left the Institute against medical advice.

There are very few reports [1–4] of peritonitis and exit site infection due to zygomycosis. In all instances, the catheter had been removed. Mortality related to zygomycosis has been reported as 57% [5]. The human infection is rare, despite ample exposure to zygomycosis, due to efficacy of the immune system. Underlying factors include diabetic

Fig. 1. Full thickness necrosis of anterior abdominal wall.
ketoacidosis (rhinocerebral involvement), leukaemia and immunosuppressive therapy (lung and disseminated infection), malnutrition (gastrointestinal infection) [6] and burns or wounds (cutaneous invasion) [7]. Iron overload and deferoxamine also increase the risk of zygomycosis [8].

Cutaneous zygomycosis usually appears as a single, painful, indurated area of cellulitis that develops into an ecthyma-like lesion. Patients who have suffered trauma with an open wound that is contaminated with spores can develop rapidly progressive tissue necrosis that resembles ischaemic infarction [7]. Dissemination or deep tissue involvement is an unusual complication of cutaneous zygomycosis [9].

Conflict of interest statement. None declared.

References


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