CANDIDA SEPTIC ARTHRITIS OF THE HIP IN A YOUNG PATIENT WITHOUT PREDISPOSING FACTORS


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We present a case of septic arthritis of the hip caused by Candida albicans in a 24-year-old woman. This is the first report of a Candida infection of the hip in a patient without any predisposing factors. She underwent a two-stage total hip arthroplasty three years after the onset of the infection. An elevated plasma level of β-D-glucan suggested Candida as the infecting organism and the diagnosis might have been made earlier if this test had been undertaken at presentation.

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Septic arthritis caused by Candida species has been described infrequently and there are usually associated predisposing factors.1-6 We describe a previously healthy young patient who developed septic arthritis of the hip caused by Candida albicans and who underwent a two-stage total hip arthroplasty (THA).

Case report

A 24-year-old woman, with no previous significant medical history, presented with a three-month history of pain in the right hip. No specific investigations were undertaken and two years later she was referred to our hospital. On examination there was tenderness over the right femoral triangle without erythema, warmth, or swelling. The movements of the hip were limited. She was afebrile. The ESR was 56 mm/hr and the level of C-reactive protein 0.5 mg/dl (normal <0.2 mg/dl). Tests for antinuclear antibodies (ANA), human immunodeficiency virus and rheumatoid factor were negative. The levels of serum immunoglobulins and CH50, C3 and C4 were normal.

A radiograph of the hip was normal apart from some osteopenia of the femoral head. MRI revealed an effusion and synovial hypertrophy. Culture of synovial fluid revealed a limited growth of Candida albicans which was thought to be a skin contaminant. The pain and radiographic destruction of the hip progressed and within six months she required crutches for walking. There was narrowing of the joint space and cyst formation (Fig. 1). A resection arthroplasty of the hip was performed. The synovium and femoral head grew Candida albicans, the presence of which was confirmed by the Pas and Grocott stain (Fig. 2). The serum level of β-D-glucan, which is a marker for fungal infection with a normal value is <20 pg/ml, was measured by the Fungitec G test MK (Seikagaku Corp, Tokyo, Japan) and found to be 210 pg/ml two days before surgery. It decreased to 107 pg/ml ten days after surgery. Treatment with oral fluconazole (200 mg/day) was started preoperatively. She continued to use crutches and the level of β-D-glucan

Fig. 1 Radiograph of the right hip just before the resection surgery, three years after the onset of the infection.

Fig. 2 Candida albicans and synovium (Grocott stain × 248).
decreased gradually to 22 pg/ml two and half years later, when she underwent THA. At operation, 100 mg of amphotericin B was added to 80 g of Endurance bone cement (DePuy CMW, Blackpool, UK). Specimens of fibrous tissue obtained at surgery showed no growth of Candida albicans. She was asymptomatic when reviewed nine months after the operation.

Discussion

Patients who develop septic arthritis with Candida usually have predisposing factors such as treatment with broad-spectrum antibiotics or steroids, immunosuppressive therapy, malignancy, rheumatoid arthritis, joint aspiration or arthroplasty. Romero et al described a case of Candida septic arthritis of the knee in an immunocompetent patient who was not a drug abuser and who had no other predisposing factors. The signs and symptoms of Candida septic arthritis differ from those of other causes of septic arthritis. Pain and swelling are present in all patients but fever, warmth and erythema are rare in those with Candida septic arthritis. The knee is more frequently involved than the hip or shoulder. This case is the first report of involvement of the hip in a previously healthy young patient without predisposing factors.

Candida species can be isolated in healthy subjects from the oral cavity, gastrointestinal tract, vagina, throat, sputum and perineal skin, but rarely from exposed skin. The clinical diagnosis of septic arthritis due to Candida may be difficult because of the absence of specific signs and symptoms, and the unusual nature of the organism. However, the presence of a positive culture for Candida in the synovial fluid should not be interpreted as a contaminant since this delays diagnosis and treatment.

β-D-glucan is a constituent of fungi and elevated plasma levels are common in patients with mycosis or fungaemia. Serological kits with proven clinical application have been developed for the rapid diagnosis of mycoses. In this case, early diagnosis and a better prognosis might have been possible if the serum β-D-glucan level had been measured at the time of presentation.

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References