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Candida arthritis after total knee arthroplasty—a case of successful treatment without prosthesis removal

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In January 1995, an 80-year-old woman underwent replacement of her left knee because of arthrosis. Postoperatively, she complained of night pain, mild swelling and increased skin temperature around the joint. Arthrocentesis revealed a few yeast colonies, subsequently identified as *Candida parapsilosis*. The finding was regarded as a contamination and during the following weeks the patient improved.

In March 1995, the left knee again became warm and painful. Repeated punctures revealed growth of *C. parapsilosis*. The white blood cell count was 5100 per mm³ and the ESR 36 mm/h. In April 1995, joint débridement was performed. No prosthetic loosening was seen. In cultures obtained from the synovial membrane, there was again growth of *C. parapsilosis*. A closed system with dual tubes was inserted in the knee joint and suction-irrigation with 3 L/day isotonic sodium chloride solution containing 200 mg fluconazole was instituted.

After 2 weeks, the outflow was cultured because the knee was found to be swollen and tender. The cultures were positive for *Pseudomonas aeruginosa*. After the irrigation, daily aspirations, local washing with 100 times dilution of povidone-iodine and intraarticular injections of dibekacin (100 mg/day) was started. The patient was also treated with intravenous administration of ceftazidime (2 g/day) and clindamycin (1.2 g/day), and fluconazole (200 mg/day) was given orally. This treatment was continued for 3 weeks. Thereafter, oral fluconazole (200 mg/day) and norfloxacin (300 mg/day) were given for 1 year.

At examination 2 years after start of the drug therapy, knee flexion was 90°. The skin temperature over the joint was normal and there was no tenderness or swelling, and the infection was regarded as healed.

Discussion

Candida prosthetic arthritis is indeed rare, with only 25 previous cases (MacGregor et al. 1979, Goodman et al. 1983, Lichtman 1983, Morley and Patterson 1983, Younkin et al. 1984, Lim and Stern 1986, Iskander and Khan 1988, Koch 1988, Lambertus et al. 1988, Levine et al. 1988, Darouiche et al. 1989, Evans and Nelson 1990, Paul et al. 1992, Tunkel et al. 1993, White and Goetz 1995, Cardinal et al. 1996) reported in the literature in English. Resection arthroplasty and débridement were considered necessary for cure (MacGregor et al. 1979, Younkin et al. 1984, Lim and Stern 1986).

In 1993, Tunkel et al. described healing of a *C. parapsilosis* infection of a prosthetic knee joint with oral fluconazole without removal of the prosthesis. The patient was infected with HIV and had had several episodes of bacterial arthritis, with *Staphylococcus hominis* in the same joint. On the other hand, White and Goetz (1995) were unable to cure a *C. parapsilosis* infection of a prosthetic knee joint with fluconazole, despite the apparent *in vitro* susceptibility of the organism.

To our knowledge, our patient is the first nonimmunocompromised case who has been cured without removal of the implant.

Despite adequate fluconazole concentrations in the joint fluid, joint débridement may be necessary for successful treatment, if a long time has passed since the onset.

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Congenital absence of fibulae with equinovarus deformity—a case report

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A 2.5-year-old girl presented with deformity of the feet from birth and walked on the dorsolateral aspect of the feet. Clinical assessment showed uncorrectable bilateral equinovarus deformities with callosities over the dorsolateral aspect of the feet. She had symmetrical genu valgum deformity of 10 degrees in both knees, and limited supination and pronation of both forearms. There was no history of similar deformities in her sibs and family. Radiographs revealed complete symmetrical absence of the fibulae (Figure) together with equinovarus deformity and metatarsus varus. Radiographs of the elbows showed bilaterally subluxed radial heads. A full skeletal survey revealed no other abnormality. She was treated by standard posteromedial soft tissue release. This was followed by corrective serial plaster casts for 3 months. A muscle biopsy from the gastrosoleus muscle was normal.

1.5 years after surgery, the feet were plantigrade, although mild metatarsus varus of the forefeet persisted. The ankles were stable, despite the complete absence of fibulae.

Discussion

Congenital absence of the fibula, also known as intercalary paraxial fibular hemimelia, is the commonest long bone deficiency (Harmon and Fahey 1937, Coventry and Johnson 1952, Farmer and Laurin 1960). It is usually associated with equinovarus deformity of the foot and the ankle, with or without tarsal bone abnormalities (Harmon and Fahey 1937, Coventry and Johnson 1952, Thomson et al. 1957, Farmer and Laurin 1960, Westin et al. 1976, Achterman and Kalam-