Septic Arthritis due to *Fusobacterium nucleatum*

Sir—we report a case of septic arthritis of the knee caused by *Fusobacterium nucleatum* in a healthy 10-yr-old male. *Fusobacterium* spp. are anaerobic Gram-negative rods that belong to the Bacteroidaceae family. Septic arthritis caused by *F. necrophorum* is sometimes seen in post-anginal septicaemia (Lemierre’s syndrome), an acute systemic illness following an oropharyngeal tract. A 10-yr-old boy was admitted to the hospital with a 3 week history of progressive pain and swelling of clavicular joint. The patient had no other musculoskeletal symptoms and reported no previous oropharyngeal symptoms. On physical examination, a non-febrile boy was seen with a tender, erythematous and swollen left knee. The leucocyte count was normal; the C-reactive protein level was 155 mg/l. Aseptic fine-needle aspiration of synovial fluid showed a leucocyte count of $58.2 \times 10^9$/mm$^3$ with polymorphonuclear leucocytes predominating (92%). As direct Gram staining was negative, two additional aspirates were taken under sterile conditions. Rheumatoid factor, ANA, anti-double-stranded DNA, ANCA and immunoglobulins were negative or normal. Serological investigations including *Yersinia*, Lyme disease, *Chlamydia*, *Campylobacter* and antistreptolysin titres were negative.

After 6 days, *F. nucleatum* was cultured from three separate specimens of synovial fluid. The distinction with *F. necrophorum* was made using gas chromatography. Treatment with penicillin (6 x 1 million U/day) and metronidazole (3 x 250 mg/day) was started. Symptoms improved rapidly with normalization of the laboratory values. No signs of endocarditis were seen during hospitalization. The patient was discharged after 4 weeks of treatment.

Anaerobic bacteria are probably responsible for <1% of acute septic arthritis affecting natural joints. *Fusobacterium* spp. are normal inhabitants of the oral cavity, the female genitals and the gastrointestinal tract. *Fusobacterium necrophorum* is the major pathogen, classically associated with Lemierre’s syndrome. This syndrome usually presents with fever, a primary infection in the oropharynx and painful cervical lymphadenopathy, followed by systemic involvement of lungs, joints and bone. In our patient, there were no signs of previous oropharyngeal infection or immunodeficiency. It is not known whether *F. nucleatum* can cause Lemierre’s syndrome. Septic arthritis caused by *F. nucleatum* is extremely rare; only one case of pyomyositis and septic arthritis due to *F. nucleatum* has previously been described in a non-immuno-compromised adult [2]. Although very uncommon, septicemia with *F. nucleatum* can cause endocarditis with rapid valve destruction [3]. One should be aware of this complication, even during treatment. Penicillin is the treatment of choice for *Fusobacterium* sepsis, eventually in combination with metronidazole or clindamycin for a duration of at least 4 weeks.

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