Infection of a total hip arthroplasty due to *Gemella morbillorum*

Sr. Editor: Infections are serious complications of the hip arthroplasty and may require removal of the prosthesis to stop the course of the disease[1]. Late infections seem to be acquired by hematogeneous spread from a distant source or as a latent infection from surgery[2]. The mouth is a recognised focus of bacteremia, mainly if a periodontal disease is present[3]. However, in most of the cases of arthritis in prosthetic joint, the type of bacteria identified was not typical for the orodental flora and only in a few cases, a dental procedure or an odontogenic infection has been related[1-5]. *Gemella morbillorum* is a Gram-positive coccus that inhabits the oropharynx, and it has been reported causing several infections[6]. To date only three cases of arthritis by *Gemella morbillorum* have been reported[7-9]. We report the fourth case of this infection and the second in prosthetic joint.

A 41-year-old man was admitted due to a one-month history of pain on his left hip. The patient described an exacerbation of the pain in the five days before his admission. He had been undergone a hip arthroplasty ten years before, because of a Legg-Calvé-Perthes disease. On arrival, clinical examination showed a limitation of the motion of his left leg, but there was no evidence of fever or leukocytosis. A joint fluid sample was collected for microbiological culture. On hospital day three, the patient got a fever peak of 38.8 °C, so three sets of blood cultures were obtained, and cloxacillin (2 mg intravenously every 4 hours) and gentamicin (100 mg intravenously every 8 hours) treatment was administered. Laboratory data showed a white blood cell count of 727 □ 10^6 □l with 56.9% polymorphonuclear leukocytes. On hospital day four, a Gram-positive was detected in joint fluid and on day seven in one set of blood cultures. The organism was susceptible to penicillin, cefotaxim, gentamicin and vancomycin. When the blood culture was positive, cloxacillin treatment was changed - by cefotaxime (2 mg intravenously every 8 hours) based on the sensitivity test, and then, on day 15, by penicillin G (4 millions intramuscular every 4 hours), and gentamicin was stopped. On day 20 the prosthesis was removed and replaced in a two-staged procedure 15 weeks later. Because of a progressive eosinophilia, penicillin was stopped after 22 days and rifampin (600 mg oral every 24 hours) and teicoplanin (400 mg intramuscular every 24 hours) were instaured. Successive cultures of samples of blood and joint fluid were negative. Up to date, 18 months after the replacement, the patient is asymptomatic. Upon further questioning, the patient referred a dental pain and inflammation episode two or three months before the start of the hip symptoms, which was treated with amoxicilin/clavulanate for ten days. A clinical examination did not showed active odontogenic focus on his admission. The isolated microorganism grew on primary culture media in 5% CO_2. On sheep blood agar plates the colonies were small and greyish, catalase-negative and was identified of *Gemella morbillorum* with API Rapid Strep System (Biomerieux) and the Biolog GN2 pannel (Biolog Inc). The identification was confirmed with the analysis of the 16s ribosomal sequence by a previously described method[10]. The susceptibilities of the isolates were determinate by the E-test on Mueller-Hinton agar supplemented with 5% sheep blood.

The microorganisms most commonly involved in the infections of prosthetic joint are staphylococci[2]. Some streptococci have been documented as the causative agents, but *Gemella morbillorum* has not been reported as a cause of infection of hip arthroplasty. *Gemella morbillorum* is a Gram-positive cocci that grows very poorly, often after 48 hours of incubation and resembles *viridans* streptococci. In many cases, it is necessary to use molecular techniques to identify it. *Gemella morbillorum* has been associated with arthritis in natural[8,9] and, in one case, in prosthetic joint[7]. Although it is rarely associated with human infections, it should not be underestimated, mainly in patients with underlying conditions, that develop periodontal and oropharyngeal events. There was no proof that the infection in our patient was metastatic from the mouth, but the sequence of events suggested it. The antibiotic prophylaxis should be considered in the patients with joint arthroplasties undergoing dental procedures with a high incidence of transient bacteraemia. Late infections of prosthetic joint are often presented as a worsening pain[11], without fever or leukocytosis, so they are difficult to diagnose. In order to properly isolate them, the time of incubation of the fluid joint cultures should be increased. This organism should be included in the list of pathogens causing infection of an arthroplasty.

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