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A Case of *Propionibacterium acnes* Spinal Osteomyelitis

Propionibacterium acnes, previously known as *Corynebacterium acnes* or *Corynebacterium parvum,* is a pleomorphic, gram-positive anaerobic or microaerophilic organism often recovered from epithelial surfaces of humans (1). *Propionibacterium acnes* has also commonly been isolated from blood cultures, most often as a contaminant. In the past the organism has been thought to have no intrinsic pathogenicity for humans although there have been some reports of infections due to *Propionibacterium acnes,* particularly in patients with vascular and orthopedic prosthetic implants (2–6). In addition, it has been isolated from wound infections as part of a mixed flora, and may play a significant role in the pathogenesis of acne (7). In this report we describe a case of spinal osteomyelitis caused by *Propionibacterium acnes.*

A 23-year-old woman with known mitral valve prolapse and aortic regurgitation (Marfan-like syndrome) and anamnestic evidence of streptococcal endocarditis (three years earlier) was admitted to our unit because of intermittent, low-grade fever with chills and malaise. A change in heart murmur was documented and echocardiography showed an increase in the pre-existing aortic regurgitation. Three blood cultures were performed, and in one case *Propionibacterium acnes* was isolated. A four-week course of teicoplanin (400 mg/day i.v.) was administered according to in vitro sensitivity tests to treat the presumed endocarditis. Therapy was apparently successful and the patient was discharged and remained well for a period of three months, after which she developed increasing non-radiating lower back pain, and low-grade fever with ESR values of 70 mm/h and normal WBC and differential. The patient was readmitted to hospital. A first X-ray did not identify bone lesions but subsequent tomographic scan and radionuclide studies were indicative of a spinal osteomylitis at L3-L4. A cytologic examination of two different fine-needle biopsies, performed under X-ray guide, revealed the exclusive presence of granulocytes, while *Propionibacterium acnes* was isolated from both specimens. The same microorganism was present in all of 6 blood cultures, but growth was slow and required 12 days' incubation. A six-week course of antimicrobial therapy with rifampicin (900 mg/day by i.v. infusion) plus trimethoprim-sulfamethoxazole (160–800 mg b.i.d. po) was completed and followed by three courses of a three-week oral treatment (same drugs and dosages), separated by one-week intervals. Therapy was well tolerated by the patient and resulted in defervescence within 48 hours, progressive decrease of lumbar pain and normalisation of ESR in 28 days. Two years after presentation the patient was symptom-free, had a normal range of movement in her lumbar spine, and radiological evidence showed almost complete recovery with chronic sclerosis of the anatomic lesion.

Propionibacterium acnes is an uncommon cause of osteomyelitis, and as it is a component of normal skin flora, establishing its pathogenicity may be difficult. Further difficulties derive from the prolonged incubation time needed (range 5 days to 2 weeks) for identification (1). Most bone infections previously ascribed to *Propionibacterium acnes* or *Propionibacterium* sp. were associated with surgical or invasive procedures (1–6), and *Propionibacterium acnes* was rarely isolated in pure cultures (1–3, 8). In a recent review of the literature (3) it was reported that, among 17 patients affected by osteomyelitis, four had spinal osteomyelitis and in two a surgery-related predisposing condition was present. Our patient was untypical as most of the previously described cases have been diagnosed in men. Furthermore, she developed osteomylitis without invasive proce-

dures having been performed or prosthetic devices implanted, nor did she present predisposing factors such as compromised immune defences or corticosteroid therapy; and finally, *Propionibacterium acnes* was isolated in pure cultures both from the bone site of infection and from blood. Our therapeutic choice was based on sensitivity tests performed (both antimicrobial agents were active on the isolated strain), on in vitro-demonstrated synergism of rifampicin and trimethoprim (9, 10), on favourable pharmacokinetics of both drugs (11, 12) and on the better acceptability of long-term oral therapies. The paucity of data concerning the optimal treatment of these rare infections as well as discrepancies in the antibiotic choices among the reported cases (1–6, 8), show there is a need for new therapies to be investigated. The results obtained in the case presented here show this therapeutic regimen to be an interesting possibility in the treatment of infections due to *Propionibacterium acnes*. This organism must be regarded as a potential pathogen whose presence (particularly when isolated in large quantities or in multiple specimens) should be correlated with the clinical situation and taken into consideration when the appropriate therapeutic decision is made. In our opinion, considering the results obtained in the treatment of osteomyelitis due to other bacteria (unpublished results), the same therapeutic regimen could also be considered a possible alternative to more classical antibiotic therapies in the treatment of osteomyelitis due to bacteria other than *Propionibacterium acnes*.

F. Suter[1]
M.A. Silanos[2]
G. Tabacchi[3]
F. Maggiolo[1]*

[1] Department of Infectious Diseases, [2]Department of Clinical Pathology, and [3]Department of Cardiology, Ospedale di Circolo, Piazza Solaro 7, 21052 Busto Arsizio, Italy.

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A Case of Biliary Tract Infection Caused by *Haemophilus parainfluenzae*

Haemophilus parainfluenzae is a commensal of the oropharynx and has been isolated from throat and lower respiratory tract. Occasionally, this organism has been identified as the causative agent of genital and neonatal infections, meningitis, endocarditis, cutaneous abscesses, urinary tract infections, and septicemia (1, 2). During the last few years, *Haemophilus parainfluenzae* has been described as the causative agent of two liver abscesses. One case was reported in a 26-year-old Nigerian student in Great Britain (3) and a second in a 12-month-old boy in the USA (1).

To our knowledge, there have been no previous reports of biliary tract infections caused by *Haemophilus parainfluenzae*. This report describes one such case, and discusses the pathogenesis of the infection.