LETTERS TO THE EDITOR

Haematogenous clavicular osteomyelitis caused by *Bacteroides fragilis*

Sir: Bones most commonly infected in cases of bacteroides osteomyelitis are the long bones of extremities,¹ though infections of the skull have been reported.² *Bacteroides* species have been isolated from polymicrobial infections of the clavicle associated with head and neck treatment.³ Clavicular osteomyelitis caused exclusively by *B. fragilis* has not been previously reported as far as we know. We describe a case of haematogenous *B. fragilis* clavicular osteomyelitis treated successfully with metronidazole.

A 22 year old previously healthy man came to the hospital with right sided clavicular pain and swelling for six days. A barium enema, given 10 days before admission for evaluation of constipation, was normal. His clavicle was not injured and he did not use intravenous drugs. Arthrocentesis showed no fluid in the right sternoclavicular joint. His erythrocyte sedimentation rate was 111 m/h. Radiographs of the affected clavicle were normal. Technetium-99m bone scan showed early increased activity in the region of the right sternoclavicular joint, with markedly increased uptake in the medial right clavicle and the immediately adjacent portion of the manubrium on delayed static images, consistent with osteomyelitis of the medial clavicle with reactive changes affecting the manubrium. Blood cultures grew *B. fragilis* susceptible to metronidazole. He was treated with a six week course of intravenous metronidazole. His symptoms resolved and his sedimentation rate returned to normal.

Osteomyelitis is a rare complication of bacteroides bacteraemia, occurring in less than 0.5% of cases.¹ Haemoglobinopathy, vascular insufficiency, and traumatic bone injury predispose to bacteroides osteomyelitis.² The management of haematogenous clavicular osteomyelitis includes antibiotic treatment alone or combined with surgical debridement.⁴ Delayed diagnosis may result in chronic infection, which often requires resection of the affected portion of the clavicle.⁵ In our case prompt treatment with intravenous metronidazole resulted in a cure. The choice of antibiotic was based on in vitro susceptibility data, established clinical efficacy,⁶ known bactericidal effect,⁷ and good bone penetration⁸ of metronidazole. *B. fragilis* should be considered in the differential diagnosis of clavicular osteomyelitis following gastrointestinal manipulation.

ALEX E STUDEMEISTER
Division of Infectious Diseases
San Jose Medical Group
San Jose, California, USA

BRUCE J DREYFUSS
Division of Rheumatology
San Jose Medical Group
San Jose, California, USA

1 Lewis R P, Sutter V L, Finegold S M. Bone infections involving anaerobic bacteria. *Medicine (Baltimore)* 1978; 57: 279-305.

- 2 Nakata M M, Lewis R P. Anaerobic bacteria in bone and joint infections. *Rev Infect Dis* 1984; 6: S165-70.
- 3 Baratz M B, Appleby D, Fu F H. Life-threatening clavicular osteomyelitis in two debilitated patients. *Orthopedics* 1985; 8: 1492-4.
- 4 Waldvogel F A, Jedoff G, Swartz M N. Osteomyelitis: a review of clinical features, therapeutic considerations and unusual aspects. *N Engl J Med* 1970; 282: 198-206.
- 5 Morrey B F, Bianco A J, Rhodes K H. Hematogenous osteomyelitis at uncommon sites in children. *Mayo Clin Proc* 1978; 53: 707-13.
- 6 Raff M J, Melo J C. Anaerobic osteomyelitis. *Medicine (Baltimore)* 1978; 57: 83-103.
- 7 Nastor L J, Finegold S M. Bactericidal activity of five antimicrobial agents against *Bacteroides fragilis*. *J Infect Dis* 1972; 126: 104-7.
- 8 Summersgill J T, Schupp L G, Raff M J. Comparative penetration of metronidazole, clindamycin, chloramphenicol, cefoxitin, ticarcillin, and moxalactam into bone. *Antimicrob Agents Chemother* 1982; 21: 601-3.

Effect of capsaicin on the release of substance P from rheumatoid arthritis and osteoarthritis synoviocytes in vitro

Sir: In a paper in this issue of the *Annals* we have shown that capsaicin is able to influence the metabolism of rheumatoid arthritis synoviocytes, raising the question of whether synoviocytes produce substance P and whether capsaicin might induce the release of substance P from them. For this reason synoviocytes obtained from total knee replacement of four patients with osteoarthritis and four with rheumatoid arthritis, were cultivated and substance P assayed in the culture medium (passages number 6 to 8) by two different radioimmunoassay methods (Peninsula, USA; Incstar, USA) before and after capsaicin stimulation.¹

In none of the culture media was the concentration of substance P above the limit of detection (10 pg/ml medium) either with or without capsaicin. Capsaicin was added in two different concentrations (10^{-8} and 10^{-6} mol/l) and according to different time schedules: capsaicin was added and the medium was harvested from non-confluent cells (day 4) and also from confluent cells (day 8); capsaicin was also added on day 3 and day 7 and the medium was harvested one day after this treatment.

The results clearly show that in vitro osteoarthritis and rheumatoid arthritis synoviocytes themselves are unable to synthesise substance P and that the action of capsaicin on synoviocytes¹ does not release tachykinins, as is the case in nervous terminal afferents. Further investigations are necessary to elucidate the direct modifications that capsaicin may induce in human cells and to understand whether in future capsaicin might be a useful tool for the treatment of inflammatory joint disease in humans.²

G PARTSCH
Ludwig Boltzmann-Institute for
Rheumatology and Balneology
Vienna-Oberlaa, Austria

M MATUCCI-CERINIC
Institute for Clinical Medicine IV
and Medical Pathology I
University of Florence, Italy

1 Matucci-Cerinic M, Marabini S, Jantsch S, Cagnoni M, Partsch G. Effect of capsaicin on the metabolism of rheumatoid arthritis synoviocytes in vitro. *Ann Rheum Dis* 1990; 49: 598-602.

- 2 Inman R D, Chiu B, Marshall K W, Rabinovich S. Neuromodulation of experimental arthritis: capsaicin moderates severity of synovitis [Abstract]. *Arthritis Rheum* 1987; 30 (suppl): E48.

Infectious arthritis caused by *Propionibacterium acnes*: a new case

Sir: Kooijmans-Coutinho *et al* recently reported two cases of septic arthritis caused by *Propionibacterium acnes*.¹ This Gram positive bacillus is rarely pathogenic and as far as we know has been reported to be the causative organism in septic arthritis on only four occasions.^{2,3}

We report here a further case, illustrating the difficulties encountered in making a bacteriological diagnosis and the advantage of culturing a synovial biopsy specimen.

A 70 year old woman who had had seropositive rheumatoid arthritis for 30 years, well controlled with D-penicillamine and indomethacin, developed a painful effusion of the left knee joint one month after infiltration with corticosteroids. This episode of febrile monoarthritis was suggestive of septic arthritis. Examination of the synovial fluid showed 54.5×10^9 leucocytes/l, 72% of which were polymorphonuclear cells, but no bacterium was isolated. Culture of a synovial biopsy fragment, however, showed the presence of *Propionibacterium acnes*. Blood cultures remained sterile. Although this bacterium was isolated only once, the clinical presentation, the high cellular content of the synovial fluid and, above all, the rapid, favourable outcome after antibiotic treatment with pristinamycin and gentamicin (regression of the pain and effusion, absence of fever, decrease in the erythrocyte sedimentation rate after one week of treatment), were compatible with a diagnosis of septic arthritis caused by *Propionibacterium acnes*.

This case is of interest, apart from the fact that it is probably only the fifth to be reported, in that it raises the possibility that the pathogenic role of this micro-organism is underestimated because bacteriological diagnosis is difficult. As with the two cases reported by Kooijmans-Coutinho, it is interesting to note the predisposing background of rheumatoid arthritis and the certain role of preceding puncture or infiltration.

Compilation of identical cases will enable a better understanding of septic arthritis caused by *Propionibacterium acnes*.

Ph BERTIN
R TREVES
M ARNAUD
A TRAORE
R DESPROGES GOTTERON
Clinique Thérapeutique et Rhumatologique
CHU Dupuytren
2 avenue Alexis-Carrel
87042 Limoges
Cedex

- 1 Kooijmans-Coutinho M F, Markusse H M, Dijkmans B A C. Infectious arthritis caused by *Propionibacterium acnes*: a report of two cases. *Ann Rheum Dis* 1989; 48: 851-2.
- 2 Yocum R C, McArthur J, Petty B G, Diehl A M, Moench T R. Septic arthritis caused by *Propionibacterium acnes*. *JAMA* 1982; 248: 1740-1.
- 3 Savolainen H, von Essen R, Nissinen A J, Jätkola M. *Propionibacterium* in purulent arthritis: probable cause of iatrogenic infection. *J Rheumatol* 1988; 15: 1040-1.