

Case report

Septic arthritis due to *Bacteroides fragilis* in a wrist affected by rheumatoid arthritis

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SUMMARY The first case of septic arthritis due to *Bacteroides fragilis* in a wrist joint is described together with its successful treatment.

Patients with rheumatoid arthritis are particularly prone to bacterial infection of affected joints.¹ Infections with obligate anaerobes are rare² and are associated with a poor prognosis.³ We here describe successful treatment with metronidazole of *Bacteroides fragilis* suppurative arthritis in the wrist of a patient receiving prednisolone for rheumatoid arthritis.

Case report

The patient, a 62-year-old woman with a 5-year history of seropositive rheumatoid arthritis affecting many joints, was admitted for investigation of a possible peripheral neuropathy. Two years previously a McIntosh prosthesis had been inserted into her left knee and 6 months later a prosthesis into her left hip. Therapy with D-penicillamine, gold, levamisole, and nonsteroidal anti-inflammatory agents had been given, but currently she was taking prednisolone (10 mg/day), ferrous sulphate, and dihydrocodeine. Eight days after admission she felt unwell and developed a slight pyrexia (37.3°C). Twelve hours later her right wrist became acutely inflamed and tender, her temperature rose to 39.2°C, and she developed rigors. The wrist joint was aspirated and 5 ml of purulent fluid withdrawn. A Gram stain of this fluid showed polymorphs and slender Gram-negative bacilli. After 24 h of anaerobic incubation culture of the fluid on neomycin blood agar revealed a pure growth of *Bacteroides fragilis* identified by the profile of metabolic end products by gas-liquid chromatography.

Blood taken for culture at the same time and 12 hours later was also positive. The organism was sensitive to metronidazole. Initial treatment with gentamicin and flucloxacillin was changed after 24 hours to intravenous metronidazole (500 mg t.d.s.) alone, and the wrist was splinted. Five days later there was considerable local and systemic improvement, and metronidazole (400 mg t.d.s. orally) was continued for a further 10 days. There was no recurrence and no deterioration in joint function when the patient was discharged 5 weeks later. Radiographs of the wrist showed severe erosive disease but had not changed during this episode.

Discussion

In a review of world literature Ziment *et al.*⁴ described 48 cases of joint infection due to obligate anaerobes. Rheumatoid arthritis and steroid therapy, both local and systemic, were predisposing factors. A survey of subsequent literature had revealed only 2 further reports of suppurative arthritis in rheumatoid joints due to bacteroides species.^{5,6} However, we believe this to be the first report of a case of wrist joint infection due to *Bacteroides fragilis*.

The origin of this infection remains obscure. There was no evidence of periodontal disease, chest infection, diverticular disease of the colon, or pelvic inflammation, and there had been no injections into the wrist. Infections can occur late (over 1 year) after the insertion of joint prostheses, and anaerobes have been implicated,⁷ but there was no clinical or radiological evidence of such an infection in this patient. We would stress the importance of culture,

including anaerobic, of joint aspirates as well as blood culture for cases of suspected suppurative arthritis so that appropriate specific antimicrobial therapy can be instituted promptly.

References

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