Yersinia pseudotuberculosis infection as a cause of reactive arthritis as seen in a genitourinary clinic: case report

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SUMMARY Patients are often referred to the genitourinary clinic for screening for urethral infections after a clinical diagnosis of Reiter's syndrome or reactive arthritis. We report a case of reactive polyarthritis in which serological evidence of *Yersinia pseudotuberculosis* infection was found in the absence of the other common precipitating organisms, such as *Chlamydia* spp, *Klebsiella* spp, *Shigella* spp, *Campylobacter* spp, or *Yersinia enterocolitica*.

Case report

A man aged 26 presented to the casualty department of Newcastle General Hospital with a history of rigors and a painful swollen left ankle on which he was unable to bear weight. Ten days previously he had developed malaise, shivering, diarrhoea, and vomiting. These symptoms resolved in the three days before his admission to hospital.

On examination he had a temperature of 38.2°C and a hot, tender, swollen left lateral malleolus. His white cell count was $11.7 \times 10^9/l$ and the erythrocyte sedimentation rate was 30 mm in the first hour. Coagulase negative *Staphylococcus* spp was grown in one blood culture bottle. Although he received intravenous flucloxacillin and benzylpenicillin as a precaution against septic arthritis, this organism was probably a contaminant. He was treated with ibuprofen for analgesia, and his symptoms remitted.

After a month he was readmitted with left ankle and bilateral wrist pain and swelling, and a painful left knee with effusion. He was referred to the genitourinary clinic for investigation of the aetiological cause of suspected reactive arthritis. He had not been abroad in the past year, and his only sexual partner had been his wife. He had no urethral discharge, no balanitis, and a negative result in the two glass urine test. No mucous membrane abnormalities or evidence

of conjunctivitis were seen. He received ibuprofen, and his joints were splinted.

Further investigations showed HLA types A1, A28, B27, and B37, *Yersinia pseudotuberculosis* type III at a titre of 1/160 (tested at a Public Health Laboratory Service reference laboratory), a white cell count of $9.7 \times 10^9/l$, haemoglobin concentration of 129 g/l, and an erythrocyte sedimentation rate of 46 mm in the first hour. His serum antistreptolysin O concentration was 166 units/ml. He had no serological evidence of rheumatoid factor or infection with *Brucella* spp, *Salmonella* spp, *Treponema pallidum*, or any viruses. Radiography of the sacroiliac joints showed no abnormality. Culture of a urethral smear for *Chlamydia trachomatis* gave a negative result.

When the results of the serological test for *Y pseudotuberculosis* became available the patient was given doxycycline 100 mg a day for a month. During the next six weeks his arthritis slowly remitted, although he developed bilateral calcaneal spurs. His erythrocyte sedimentation rate remained between 24 and 40 mm in the first hour, and six months after presentation he had no detectable antibodies to *Y pseudotuberculosis*.

Discussion

Y pseudotuberculosis most commonly presents clinically as a pseudoappendicitis (terminal ileitis, appendicitis, or mesenteric adenitis)^{1,2} or diarrhoea. An outbreak of *Y pseudotuberculosis* infections with reactive arthritis has been reported from Turku, Finland,² and similar cases have been seen in Rumania,³ but no report from the United Kingdom has been published.

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Increasing numbers of *Y pseudotuberculosis* infections are being reported in England, Wales, and Ireland (Public Health Laboratory Service, Communicable Disease Surveillance Centre, unpublished observation). In 1985 *Y pseudotuberculosis* infection was reported in 19 patients, four of whom had associated arthritis, in 1986 the figures were 44 (three with arthritis), and in 1987 94 (nine with arthritis). The reported clinical features associated with evidence of *Y pseudotuberculosis* infection included erythema nodosum, diarrhoea, abdominal pain, bowel perforation, mesenteric adenitis, pneumonia, suspected Crohn's disease, ileitis, pyrexia, suspected appendicitis, pyelonephritis, inflammatory bowel disease, pancreatitis, "liver lesions", arthralgia, and polyarthritis.

We think that an increased awareness of the association between seronegative polyarthritis and *Y pseudotuberculosis* infection is important, and we emphasise the importance of considering a large differential diagnosis in any patient presenting with Reiter's syndrome or reactive arthritis.

References

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- 3 Georgescu C, Dan E, Cojocaru M, Plosceanu L. The role of infections with *Yersinia pseudotuberculosis* and *Yersinia enterocolitica* in the pathogenesis of chronic inflammatory, rheumatic and collagen diseases. *Med Interne* 1986;24:217-20.