Relapsing yersinia infection

Robert C Read, Ralph E Barry

Department of Medicine,
Bristol Royal Infirmary,
Bristol BS2 8HW
Robert C Read, MRCP,
registrar
Ralph E Barry, MD,
consultant senior lecturer

Correspondence to:
Dr R C Read, Host Defence
Unit, National Heart and
Lung Institute, London
SW3 6LY.

Br Med J 1990;300:1694

Infection with *Yersinia enterocolitica* usually results in a benign and self limiting enteric illness with or without mesenteric lymphadenopathy.¹ Diagnosis is made by direct culture of yersinia from stools, and in immunocompetent adults there is said to be a rapid and measurable serological response.² If necessary the illness can usually be cured by treatment with tetracyclines, co-trimoxazole, or trimethoprim.³ The case that we report did not conform to this pattern.

Case report

A 29 year old woman presented with a two week history of abdominal pain, diarrhoea, and vomiting. She had a fever (39°C) and mild tenderness in the left iliac fossa. She had a white cell count of $26.1 \times 10^9/l$ (neutrophils 90%) and a C reactive protein concentration of 46 mg/l (normal <8). Culture of stool, blood, and urine yielded negative results. A small bowel enema showed thickened folds of terminal ileum, but a rectal biopsy specimen was normal. She improved spontaneously over the course of a week.

She presented again one month later with diarrhoea, abdominal pain, weight loss, malaise, generalised lymphadenopathy, and an abdominal mass. Sigmoidoscopy and barium enema yielded normal findings. Rubbery lymph nodes in the small bowel mesentery and mesocolon consistent with lymphoma were found at laparotomy, but histological examination showed a necrotising granulomatous lymphadenitis typical of yersinia infection. Culture of pus from the lymph nodes was negative for yersinia, but methods specific to yersinia were not used. Repeated faecal cultures were negative and serum immunoglobulin concentrations were normal. She improved with two months' treatment with tetracycline 2 g daily, but two months after stopping this she relapsed. Colonoscopic biopsy specimens showed mild inflammatory changes, especially in the sigmoid colon, but were negative on culture for yersinia. Despite a prolonged second course of tetracycline she relapsed three months after it was withdrawn. She had similar clinical and laboratory abnormalities to those seen previously but also had a normochromic anaemia (haemoglobin concentration 90 g/l). Her condition remitted during four months' treatment with co-trimoxazole 0.96 g twice daily, but the drug was stopped when she became pregnant. By the third trimester she had again relapsed and she had symptoms until she had a normal child at 32 weeks' gestation.

She rapidly improved while taking co-trimoxazole, which was maintained for six months, but again relapsed when it was withdrawn. Barium follow through showed multiple thickened folds in the distal and terminal ileum. Stool cultures remained negative, and antibodies to *Y enterocolitica* serotypes 0:3, 0:5, 0:6, 0:8, and 0:9 were absent. Indirect immunofluorescence testing of the original lymph node blocks yielded a positive result with a polyvalent rabbit antiserum specific against serotypes 0:3, 0:5, 0:8, and 0:9 and with a polyclonal rabbit antiserum specific against the plasmid encoded outer membrane of *Y enterocolitica*.⁴ The bacilli were localised between the lymphocytes. She was treated with ciprofloxacin 1 g daily for four weeks and her condition remitted immediately. She remained well three years later.

Comment

Reports of chronic yersinia infection are scant.¹ This patient undoubtedly had symptomatic colitis and histological evidence of this disease nine months after her initial illness and remained ill for two and a half years afterwards. Two other features of this case were unusual. Firstly, stool cultures and antibody titres specific to yersinia were consistently negative and the diagnosis made only by using an indirect immunofluorescence test for *Y enterocolitica* in biopsy material. This novel method has shown that as many as 62% of patients with the systemic form of yersinia infection have negative faecal cultures and titres of agglutinins.⁴ The true incidence of yersinia enteritis is therefore probably underestimated. In addition, serotype 0:8 may be associated with more severe extramesenteric forms of the disease than the more familiar serotypes 0:3 and 0:9. Secondly, the patient responded well and promptly to tetracycline and co-trimoxazole but relapsed repeatedly after their withdrawal. These drugs occasionally fail in this condition,³ but the usual pattern is failure to respond at all rather than relapse on their withdrawal. The reported 100% efficacy of ciprofloxacin³ may be related to the high intracellular concentrations achieved with this antibiotic.

We are grateful to Dr J A Hoogkamp-Korstanje for performing the immunofluorescence tests and to Dr Sebastian Lucas for reviewing the histological findings.

- 1 Vantrappen G, Agg HO, Geboes K, Ponette E. Yersinia enteritis. *Med Clin North Am* 1982;66:639-53.
- 2 Bottone EJ, Sheehan DJ. Yersinia enterocolitica; guidelines for serologic diagnosis of human infections. *Rev Infect Dis* 1983;5:898-906.
- 3 Hoogkamp-Korstanje JA. Antibiotics in yersinia enterocolitica infections. *J Antimicrob Chemother* 1987;20:123-31.
- 4 Hoogkamp-Korstanje JA, De Koning J, Samson JP. Incidence of human infection with yersinia enterocolitica serotypes 0:3, 0:8, and 0:9 and the use of indirect immunofluorescence in diagnosis. *J Infect Dis* 1986;153:138-41.

(Accepted 23 March 1990)

Safety of intramuscular injection of hepatitis B vaccine in haemophiliacs

D I K Evans, Alexandra Shaw

Haemophilia Centre, Royal
Manchester Children's
Hospital, Manchester
M27 1HA
D I K Evans, FRCPED,
consultant haematologist
Alexandra Shaw, RSCN,
haemophilia sister

Correspondence to:
Dr Evans.

Br Med J 1990;300:1694-5

People with haemophilia are at risk of developing hepatitis B from the injection of contaminated concentrates of clotting factor. It is generally recommended that they should be immunised against the virus. Injections of hepatitis B vaccine are usually given intramuscularly into the upper arm. Intramuscular injections, however, are generally considered

to be contraindicated in haemophiliacs, some authorities stating that they should not be given in any circumstances. As a result hepatitis B vaccine has been given to haemophiliacs by subcutaneous¹⁻³ or intravenous⁴ injection. We report our experience of giving intramuscular injections of hepatitis B vaccine to haemophiliacs.

Patients, methods, and results

We gave hepatitis B vaccine (H-B-Vax, Merck Sharp and Dohme) to 51 children attending our haemophilia centre (table). The dose, as recommended by the manufacturers, was 0.5 ml (10 µg) for children aged less than 10 years and 1.0 ml (20 µg) for the others. Each child received a course of three injections. Thirty