Terminal ileitis: Yersinia enterocolitica isolated from faeces

There is increasing evidence that yersinia infection may play an important part in the causation of terminal ileitis. We report a case in which the organism was isolated from faeces for the first time in the United Kingdom.

Case report

A boy aged 13 was admitted to hospital on 2 August 1976 with two days' history of malaise and nausea. He had had constant lower abdominal pain with occasional colic for 24 hours, gradually localising to the right iliac fossa. He passed two soft stools on 1 August and one on 2 August. He was in Devon from 17 July to 1 August and had been playing with lbgas, crabs, jelly fish, and sheep. There were no pet animals. He had never left England. His oral temperature was 39°C. There was tenderness of the lower abdomen, particularly in the right iliac fossa. Laparotomy showed that the terminal 20 cm of ileum and its mesentery was thick, oedematous, and congested. The mesenteric lymph node was involved. The rest of the bowel looked normal.

A stool specimen eight days after operation grew Yersinia enterocolitica biotype 4 (Wauters), serotype 0:3. The specimen was plated on desoxycholate-citrate agar. After 18 hours' incubation at 37°C there was a heavy growth of minute lactose non-fermenting colonies. The organism was identified by conventional methods and by API 20E (API Laboratory Products Ltd.). It was not isolated from selenite broth incubated at 37°C for 18 hours or at 4°C for seven days, but was recovered from phosphate buffered saline incubated at 4°C for seven days. Subsequent faecal samples also grew the organism (figure). It was not isolated from the mesenteric lymph node or from the swab from the serosa of the ileum, or from a rectal swab the day after operation. A rising antibody titre to the organism isolated was found and likewise to a standard strain of Y enterocolitica (figure). The biopsy of the lymph node showed mild reactive follicular hyperplasia and small lymphocytes with scanty small pyroninophilic cells in the peripheral sinuses. Concentrations of serum aspartate aminotransferase, lactate dehydrogenase, alkaline phosphatase, and orosomucoids (figure) were raised initially, but returned to normal later. Erythrocyte sedimentation rate ranged from 4-23 mm in one hour.

Normal findings included: throat swab; chest x-ray pictures; electrocardiogram; antistreptolysin titre; concentrations of serum proteins, calcium, bilirubin, iron, immunoglobulins G, A, and E, cholesterol, folic acid, and red-cell folate; iron-binding capacity; result of xylose absorption test; urine culture; and virus serology. The Mantoux test was negative at a titre of 1/10 000. The result of a follow-through barium-meal examination was normal.

Treatment with co-trimoxazole 120 mg twice daily was started on 16 September to relieve pain. The organism was sensitive to the drug. Blood and faeces from his parents and two sisters failed to show evidence of infection. The source of the infection remains unknown.

Comment

Although acute Y enterocolitica infection of the gut has been recognised, it is not commonly diagnosed in the United Kingdom. The organism is slow-growing and readily overlooked, but it may grow on routine culture media. If the laboratory staff are informed of the possibility of yersiniosis, the specimen may be incubated at 30°C for an extended time or on special media. Antibody titres and raised orosomucoid concentrations indicate the activity of the disease. A serological diagnosis requires the examination of paired sera samples at 10-day intervals as antibodies may not be detected in the first sample.

This case shows the importance of considering Y enterocolitica infection in the differential diagnosis of acute ileitis. The outlook for patients with Crohn's disease is a serious recurring illness but those with yersinia infections may expect complete recovery.

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Acute supplicative thyroiditis caused by Escherichia coli

Suppurative thyroiditis is a rare disease which may be mistaken for other thyroid lesions. The usual pathogens are Gram-positive cocci. Gram-negative bacilli seldom cause thyroiditis.

Case history

A 70-year-old woman had a functioning nontoxic right thyroid nodule for three years. In July 1975 she presented with a five-day history of a sudden rapid increase in the size of the nodule, associated with redness of the overlying skin. Her temperature was 38°C and pulse rate 100/min. There was a 7 - 4 cm firm tender mass in the right thyroid lobe. The overlying skin was warm and erythematous. The leukocyte count was 16.1 x 10⁹/l (16 10⁹/mm³) and the erythrocyte sedimentation rate 112 mm in the first hour. Serum thyroxin, measured by competitive protein binding, was 80 nmol/l (6.2 μg/100 ml), normal range 44-167 nmol/l (5-13 μg/100 ml). Urine analysis showed pyuria, and urine culture yielded a heavy growth of Escherichia coli. Blood cultures were negative. Chest radiography showed the trachea to be shifted by a soft-tissue mass at the base of the neck. A sodium perethennate thyroid scan showed a 2-5 cm functional nodule in the right lobe, corresponding in location to the palpable mass, but contributing only partly to its size. There was no uptake in the left thyroid lobe.

Within a few days the thyroid mass enlarged and became more tender. Incision yielded 30-40 ml of a green-yellow pus which on culture grew E coli with antibiotic sensitivity identical with that of the organism isolated from the urine. Treatment with gentamicin, 80 mg eight-hourly for 10 days, resulted in complete healing of the infection. The urine culture became sterile.

Comment

The early stages of acute supplicative thyroiditis may be difficult to diagnose, and may be mistaken for subacute thyroiditis or other conditions such as acute haemorrhage into a pre-existing thyroid adenoma or cyst, rapidly growing anaplastic thyroid carcinoma, and rarely acute flare-up of Hashimoto's disease.