

Tuberculosis after jejunio-ileal bypass for morbid obesity

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Summary

A patient contracted tuberculosis after 2 operations for morbid obesity. The difficulty in diagnosis and treatment is described. Jejunio-ileal bypass is a non-physiological operation, with many reported complications and side effects. Following this short experience the author and his colleagues have now abandoned this operation. Patients suffering from malnutrition as a result of slimming operations should be carefully monitored for tuberculosis.

Introduction

Jejunio-ileal bypass for morbid obesity was popular during the last decade until complications were reported both due to the operation and the severe associated metabolic changes. Pioneers of this operation declared that the significant morbidity and mortality should limit wide application of the procedure (Scott, 1979). A patient is now reported who had tuberculosis which presented as a rare complication of that operation.

Case history

A 23-year-old male weighing 216 kg underwent successful jejunio-ileal bypass (Payne procedure) by Dr H. William Scott (Scott *et al.*, 1970) in 1966 and lost 90 kg, but 8 years later he was admitted to Ichilov Hospital, Tel-Aviv, after his weight increased to 150 kg. A second operation was performed to shorten the jejunum to 36 cm and the ileum to 10 cm. The blind loop was anastomosed to the transverse colon (Scott procedure).

Severe disturbances in liver function resulting in fatty degeneration and fibrosis of the liver (proved by biopsies) occurred during the next 2 years. This required parenteral amino acid and electrolyte infusions over a prolonged period in hospital (Heimburger *et al.*, 1975). Intractable diarrhoea, 15 to 20 times/day, was associated with a weight loss of

80 kg. A radio-opaque renal stone developed which did not require treatment.

One year after the second operation, fever, rigors and vomiting necessitated admission to hospital and a left pleural effusion was noted. One litre of clear, sterile fluid was aspirated and tuberculosis was suspected as he had been a nurse working in a chest hospital dealing with this disease. However, no positive cultures were obtained from urine, sputum or the pleural aspirate.

During the second year after the operation he developed discomfort and pain in the left knee which was tender, hot and oedematous. X-rays were reported as normal at this time. The diagnosis of arthritis with intestinal bypass was suspected and he was treated with non-steroidal anti-inflammatory drugs.

Aspirated synovial fluid eventually grew *Mycobacterium tuberculosis* on culture. Specific anti-tuberculous treatment with streptomycin 1 g twice weekly, ethambutol 400 mg twice daily, isoniazid 300 mg/day and para-aminosalicylic acid 6 g/day was instituted. Severe deterioration in liver function limited the use of isoniazid. The other drugs were excreted in his stools as unchanged tablets. A reversal of the jejunio-ileal bypass was therefore considered but refused by the patient. His general condition deteriorated and a typical tuberculous lesion of his left lower femur appeared on X-rays. The jejunio-ileal bypass was reversed.

The patient slowly regained his weight and reached 180 kg 3 years later. Control X-rays and bacteriological studies failed to reveal signs of tuberculosis 18 months after the reversal of the jejunio-ileal bypass. During that period, treatment with ethambutol, isoniazid and para-aminosalicylic acid was controlled by the National League Against Tuberculosis.

Since his recovery, the patient has refused any more medical check-ups but reports that his general condition is satisfactory. He is active in social and political life in Israel and works as a nurse in a mental institution.

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Discussion

Jejuno-ileal bypass has become less popular owing to high complication rates and the availability of alternative surgical procedures for the treatment of morbid obesity. Since Payne *et al.* (1973) and Scott *et al.* (1977) described their operations, modifications of the technique have not altered the severe complications due to malnutrition (Scott, 1979; Nachlas, Crawford and Pearl, 1980; Halverson *et al.*, 1980).

Tuberculosis has previously been observed in 14 patients who underwent intestinal bypass (Pickleman *et al.*, 1975; Battershill, 1976; Harris and Wasson, 1977; Yu, 1977; Bruce and Wise, 1977; Backman and Hallberg, 1978). In addition to the more common complications such as urolithiasis, fatty infiltration and fibrosis of the liver, intractable diarrhoea and electrolyte imbalance, the present patient also contracted T.B. Anti-tuberculous treatment was delayed owing to the lack of a definite diagnosis but when it was started it was found to be ineffective owing to the diarrhoea and a rapid transit time. Restoration of normal small bowel anatomy was the only solution.

Malnourished people are more prone than others to contract tuberculosis as was demonstrated in post-gastrectomy patients (Steiger *et al.*, 1976; Chofnas and Love, 1966) although no specific immune deficiency has been demonstrated (Yu, 1977). Obese patients undergoing operation to alter the function of their gastrointestinal tract are often undernourished and may be susceptible to infection when exposed to *M. tuberculosis*. The author and his colleagues have performed 15 jejuno-ileal bypass procedures and have now abandoned the technique since the morbidity as published and witnessed was too high (Griffen, 1980). Surgical procedures disturbing the integrity of the gastrointestinal tract such as gastric bypass or partitioning must be reconsidered in view of the profound physiological and metabolic changes they produce.

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