Multiple tuberculous perforations of ileum

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Tuberculous ulceration of the intestine has become uncommon with the decrease in the incidence of pulmonary tuberculosis. Free perforation of a tuberculous ulcer into the peritoneal cavity is even less common. This case report deals with an example of multiple perforations of tuberculous ulcers of the ileum associated with florid pulmonary tuberculosis.

CASE HISTORY

The patient, a 57-year-old English labourer known to be an alcoholic, gave a history of intermittent cough for two years, worse for the past six weeks. During the latter period he had had difficulty in swallowing, and had vomited after most meals. He lived alone and had survived on tea and biscuits during this time.

On examination he was found to be grossly dehydrated, with signs of bilateral bronchopneumonia. A chest radiograph and the finding of large numbers of acid-fast bacilli in the sputum confirmed the diagnosis of pulmonary tuberculosis. Therapy with Pasinah 320 and streptomycin was started on the day of admission.

Thirty-six hours later the patient developed lower abdominal pain which gradually increased. He became tender over the whole of the abdomen, maximal in the right hypochondrium and right iliac fossa. The patient was in a state of peripheral circulatory failure: blood pressure was 75/55 mm Hg. A provisional diagnosis of perforation of a peptic ulcer or gastric carcinoma was made. Supine and erect radiographs of the abdomen were taken and free gas under the diaphragm was seen, confirming the diagnosis of a perforated viscus.

After an initial period of resuscitation a laparotomy was performed. This revealed a large volume of free intestinal fluid in the peritoneal cavity due to four longitudinal perforations along the antimesenteric border of the terminal ileum, each measuring approximately 10 × 5 mm. A diagnosis of perforation of tuberculous ulcers was made, and a biopsy later confirmed this. The liver was noted to be cirrhotic. In view of the patient's poor condition, simple suture of each ulcer in two layers in a transverse direction was performed. The peritoneal cavity was drained.

The patient's immediate postoperative condition was poor, but with antituberculous drugs, physiotherapy, and high calorie intravenous therapy (including alcohol), gradual improvement was seen. Tracheostomy was performed on the fifth postoperative day in view of difficulty in coughing up the increasingly viscid sputum. Although the patient's general condition further improved

over the next few days, he became jaundiced and died suddenly on the tenth postoperative day.

Necropsy (Dr W. S. A. Allen) confirmed gross confluent tuberculous bronchopneumonia with bilateral pleural effusions. The ileal repair was intact and the ulcers appeared to have healed completely. Tuberculous abscesses were present in both kidneys. The liver showed multinodular cirrhosis. Mallory-Weiss type lesions were noted in the cardia and lower oesophagus.

COMMENT

Paustian and Bockus (1959) classify tuberculous enteritis into three types according to the gross appearance: ulcerative, hypertrophic, and ulcerohypertrophic. Caused by spread of pulmonary infection to the lymphoid tissue of the bowel, the characteristic lesion of ulcerative tuberculous enteritis is the 'girdle ulcer', the circumferential distribution relating to the transversely running lymphatics. If, however, the Peyer's patch alone is involved, the ulcer may be longitudinal, as was found in the case described. Free perforation is uncommon due to reactive thickening of the peritoneum (Boyd, 1961) and the formation of adhesions to adjacent tissues (Muir, 1964). The ulcerative variety appears to be the least common type in Britain, and there are correspondingly few reports of perforation of tuberculous ulcers in the recent British literature. Rosenthal (1935) mentions a pinhead perforation of a tuberculous terminal ileal ulcer found at necropsy; Douglas (1953) reports successful repair of a single tuberculous perforation in a 14-year-old boy; Talwalkar (1955) also has reported repair of a single tuberculous ulcer perforation in the ileum. Bentley and Webster (1967) reviewed 14 cases of gastrointestinal tuberculosis seen in the United Sheffield Hospitals from 1955 to 1965. Three of these were ulcerative, affecting the small bowel; two of them perforated. In one the terminal ileum was excised following perforation; in the other a perforation was found at necropsy. A similar report from the Birmingham United Hospitals for the years 1951 to 1962 (Howell and Knapton, 1964) records seven proven cases and six likely cases of tuberculous infection of the bowel, none of which was of the ulcerative variety.

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Further reports in the American literature emphasize the rarity of ulcerative bowel tuberculosis (Jordan and De Bakey, 1954; Abrams and Holden, 1964) which is almost always secondary to pulmonary tuberculosis (Paustian and Bockus, 1959) though exceptions have been noted (Bockus, Tumen, and Kornbloom, 1940). Mitchell and Bristol (1954) diagnosed 346 cases of intestinal tuberculosis by routine radiological studies of 5,529 patients with pulmonary tuberculosis. The more advanced the pulmonary tuberculosis, the higher the incidence of secondary gut involvement found. The incidence fell during the latter years studied (1924-41), which the authors relate to a diminution in the degree of tuberculous infection of the lungs, rather than the control of bovine tuberculosis which occurred during this period. They record no example of intestinal perforation. Cullen (1940), however, noted 10 free perforations into the general peritoneal cavity in 1,043 patients admitted for sanatorium treatment of pulmonary tuberculosis. Four of these had perforated at two sites.

In a review of acute perforated tuberculous enteritis, Sweetman and Wise (1959) found 70 cases in the literature of which 20 had been operated on. Most of these had been treated by simple suture with a mortality of 50%. The authors attribute the high mortality to the poor tissues in the ulcer edges, and the presence of distal stenosis. They recommend excision of the perforated segment with ileo-transverse colostomy as an initial procedure, and quote two successfully treated patients. Markowitz (1960) mentions a perforated tuberculous ulcer which was treated by local excision of the ileum and ileostomy.

Multiple perforations of tuberculous ulcers appear to be a rarity, though reports of single cases in the French and American literature (Ameuille and Chevalier, 1939; Clinicopathologic Conference, Minneapolis Veterans Administration Hospital, 1958) record the discovery at necropsy of multiple ileal perforations due to tuberculosis.

This report of four perforations of tuberculous ulcers of ileum is noteworthy in providing a record of an uncommon complication of a condition now rarely seen in such gross proportions. The florid nature of the condition may have been associated with lowered resistance to infection due to cirrhosis. When the patient died from pulmonary tuberculosis and liver failure, 10 days after simple suture of the

perforations, necropsy showed the repairs to be intact and the ulcers completely healed. This is perhaps surprising in view of the overwhelming nature of the pulmonary tuberculosis. Presumably the antituberculous therapy before and after operation aided the healing, whilst suction of sputum through the tracheotomy prevented the swallowing of tubercle bacilli, thus diverting a source of further infection from the bowel.

SUMMARY

A case of multiple tuberculous perforations of ileum is described and recent literature on the subject reviewed.

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