Ileal carcinoma and tuberculous ileitis

M.J. Cooper, R.C.N. Williamson and J.H.F. Smith

University Departments of Surgery and Pathology, Bristol Royal Infirmary, Bristol BS2 8HW, UK.

Summary: A 76 year old woman presented with abdominal pain and weight loss. At laparotomy she was found to have an adenocarcinoma of the ileum arising in a segment of tuberculous ileitis. The possible significance of this association is discussed.

Introduction

The small bowel is an uncommon site for adenocarcinoma, with an annual incidence of one per 450,000 population.¹ Within the small bowel the duodenum is the favoured site. Ileal carcinomas are rare and are usually associated with underlying conditions, notably Crohn's disease.² We describe what appears to be the first case of adenocarcinoma arising in a segment of tuberculous ileitis.

Case report

A 76 year old woman presented with an 8 month history of intermittent periumbilical colic accompanied by 12 kg weight loss. There was no abnormality on physical examination and all her blood tests were normal. Barium enema was also normal, but an intubated small bowel meal demonstrated a dilated ileum and a probable small bowel tumour.

At laparotomy an ileal tumour was encountered 90 cm proximal to the ileocaecal valve and this was resected. The resected specimen consisted of 60 cm of small bowel with a centrally placed stricture 8 cm in length. Within the narrow segment the small bowel was thickened and the mucosal surface irregular, and in addition there was a polypoid tumour mass 3 cm in diameter occluding the bowel lumen. Histological examination of the tumour (Figure 1) showed a moderately differentiated adenocarcinoma arising from the small bowel mucosa and invading, but not penetrating, the muscle coat. Within the tumour and the adjacent bowel wall, numerous caseating granulomas were identified surrounded by a rim of lymphocytes and fibroblasts with typical multinucleate Langhan's giant cells; acid-alcohol-fast bacilli were readily demonstrated in the granulomas. Local mesen-

teric nodes were free of tumour but contained numerous caseating tuberculous granulomas. A diagnosis of adenocarcinoma of the ileum with co-existent active tuberculous ileitis was established.

Post-operative recovery was uneventful and she was commenced on a 9 month course of antituberculous therapy. She remains alive and well, free both of tumour and tuberculosis, almost 5 years later.

Discussion

Exactly why the small intestine, which comprises 90% of the surface area of the gastrointestinal tract, is so resistant to neoplasia is unknown. Many theories have been proposed,³ none of which is proven, but it is thought that ileal protection might well be immunological. When they do occur, about 50% of ileal carcinomas develop in association with other diseases.^{1,2} There is an increased incidence in patients receiving immunosuppressive therapy and those deficient in IgA.³

Over 70 cases of small bowel adenocarcinoma have now been reported in patients with Crohn's disease, of which 70% were in the ileum.^{4,5} Although it was initially thought that cancers only arose in long-standing Crohn's enteritis, a recent review suggests that the diagnosis may often be missed except on thorough histological examination.⁵ Crohn's disease is a granulomatous disease affecting the entire gut, although 55% of cases involve the terminal ileum. We report here the occurrence of an adenocarcinoma of the small intestine in a segment of another granulomatous disease, tuberculous ileitis. Presentation was due to obstruction and the ileitis was an unexpected finding of unknown duration. Although the distinction between caseating tuberculosis and necrotizing granulomas in Crohn's disease can be extremely difficult, the diagnosis of tuberculous ileitis in this case was established following the demonstration of acid-alco-

Correspondence: M.J. Cooper M.S., F.R.C.S.
Accepted: June 1986

Figure 1 Photomicrograph of the edge of the tumour showing a moderately differentiated adenocarcinoma of the small bowel and caseating granulomas including Langhan's giant cells (arrowed); within the granulomas acid-alcohol-fast bacilli are identified (inset). Haematoxylin and eosin, original magnification $\times 100$. (Inset: Ziehl-Neelsen, original magnification $\times 3500$.)

hol-fast bacilli within the granulomas. Furthermore the granulomas were larger than those usually seen in Crohn's disease with a sharply defined lymphocytic rim and foci of hyalinization, features associated with tuberculous granulomas.⁶

The possibility that tuberculous ileitis can promote carcinogenesis has not been previously reported. A

search of the records in Bristol (catchment population circa 800,000) has unearthed 9 cases of ileal carcinoma and 3 cases of intestinal tuberculosis during the last 15 years. The statistical chances of the association being coincidental would therefore appear to be extraordinarily remote.

References

1. Cooper, M.J. & Williamson, R.C.N. Enteric adenoma and carcinoma. *World J Surg* 1985, **9**: 914–920.
2. Williamson, R.C.N., Welch, C.E. & Malt, R.A. Adenocarcinoma and lymphoma of the small intestine. Distribution and etiologic associations. *Ann Surg* 1983, **197**: 172–178.
3. Wilson, J.M., Melvin, D.B., Gray, G.F. & Thorbjarnarson, B. Primary malignancies of the small bowel: a report of 96 cases and review of the literature. *Ann Surg* 1974, **180**: 175–179.
4. Hawker, P.C., Gyde, S.N., Thompson, H. & Allan, R.N. Adenocarcinoma of the small intestine complicating Crohn's disease. *Gut* 1982, **23**: 188–193.
5. Thompson, E.M., Clayden, G. & Price, A.B. Cancer in Crohn's disease – an occult malignancy. *Histopathology* 1983, **7**: 365–376.
6. Morson, B.C. & Dawson, I.M.P. In *Gastrointestinal Pathology*, chapter 20. Blackwell Scientific Publications, Oxford, London, 1979 p.272.