CASE REPORTS

Chronic periaortitis presenting as common bile duct obstruction

D Remedios, M Coppen, J Bradbeer, A Theodossi

Abstract

The case of a 67 year old woman is reported who presented with cholestatic jaundice and was found to have, in addition, an inflammatory abdominal aortic aneurysm. Only at necropsy did histopathology show chronic periaortitis as the aetiology of a pancreatic head mass which, during life, mimicked a pancreatic neoplasm obstructing the bile and pancreatic ducts.

The association of chronic periaortitis (perianeurysmal retroperitoneal fibrosis) with duodenal, pleural, and lung fibrosis,¹ chronic coronary periarthritis,² and ureteric entrapment³ have previously been documented. Although there have been reports of common bile duct compression by an abdominal aortic aneurysm⁴ and retroperitoneal fibrosis simulating carcinoma of the pancreas in an anicteric patient,⁵ we believe that this is the first report of a case of chronic periaortitis presenting with cholestatic jaundice and obstruction of the common bile duct.

Case report

A 67 year old woman was referred with jaundice, vomiting, anorexia, weight loss, and upper abdominal and back pain. She was also found to have a pulsatile mass in the epigastrium.

Her erythrocyte sedimentation rate was 47 mm in the first hour and 'liver function tests' were abnormal with a serum bilirubin concentration of 479 $\mu\text{mol/l}$ (normal range 10-20), an alkaline phosphatase activity of 2230 IU/l (normal range 80-300), and transaminases raised fivefold. The ultrasound scan of her abdomen showed intra- and extrahepatic duct dilatation but no evidence of a stone or mass in the head of the pancreas. There was also a 4 cm fusiform abdominal aortic aneurysm.

Endoscopic retrograde cholangiopancreatography (ERCP) showed strictures in the distal common bile duct and the distal pancreatic duct with prestenotic duct dilatation of both. Using the criteria proposed by Nix *et al*⁶ a tumour of the pancreatic head or ampulla of Vater would have been likely. A biliary endoprosthesis was inserted at ERCP to drain the

Figure 1: (A) Section of the resected aneurysmal wall showing chronic periaortitis; (B) high power view of fibrotic adventitia (haematoxylin & eosin).

From the Departments of Gastroenterology, Surgery, and Histopathology, Mayday Hospital, Croydon, Surrey CR4 7YE
D Remedios
M Coppen
J Bradbeer
A Theodossi

Correspondence to:
Dr A Theodossi, Department of Gastroenterology, Mayday Hospital, Croydon, Surrey CR4 7YE.

Accepted for publication
17 July 1990

Figure 2: Section from postmortem pancreatic mass showing extensive dense fibrosis (haematoxylin & eosin).

biliary tree. Coeliac axis and superior mesenteric intra-arterial digital subtraction angiography showed no 'tumour circulation.' At the time it was thought that further imaging was unlikely to change management.

At laparotomy, surprisingly, no tumour mass was identified around the pancreatic head or common bile duct. In the absence of a tissue or surgical macroscopic diagnosis of malignancy, plans for a Whipple's procedure were abandoned. The large inflammatory aortic aneurysm with surrounding retroperitoneal fibrosis was resected and replaced with a Dacron prosthesis. Histology of the resected specimen showed severe atherosclerosis, medial breaching, and typical adventitial inflammation and fibrosis seen in chronic periaortitis (Fig 1).

With the biliary stent in situ the patient's jaundice faded and the erythrocyte sedimentation rate fell to 25 mm in the first hour. Follow up ultrasound scans done four and seven months postoperatively showed a mass posterior to the stent and to the left of the coeliac axis. At the time it was thought that this mass represented a pancreatic neoplasm and the patient was managed accordingly. She remained in good health until a few months before her final admission. Despite pancreatic enzyme supplements she continued to lose weight and eventually died with perinephric sepsis 19 months after presentation.

Necropsy showed a ruptured right perinephric abscess and acute peritonitis, which was clearly the immediate cause of death. In addition, there was generalised atheroma in the major arteries. A firm 4×3×2 cm mass was present in the pancreatic head severely constricting the pancreatic duct and infiltrating part of the wall of the common bile duct adjacent to the ampulla but not extending to the ureters. Macroscopically this appeared to be a primary pancreatic carcinoma. The biliary stent had remained in correct position and the common bile duct was not dilated. Histology of the pancreatic mass (Fig 2)

showed extensive dense fibrosis in the peripancreatic tissues adjacent to the site of the previously resected inflammatory aneurysm. Despite careful examination of multiple sections of this pancreatic mass there was no evidence of malignancy. The histological appearances were similar to those in the aneurysmal adventitial tissues.

Discussion

Chronic periaortitis, as defined,¹⁷ describes the active chronic inflammation around the lower abdominal aorta accompanied by progressive scarring with venous obliteration and contraction seen, typically, in middle aged and elderly patients, especially men. The erythrocyte sedimentation rate usually exceeds 45 mm in the first hour.⁷ Parums *et al* suggested an autoallergic mechanism incriminating the insoluble lipid, ceroid, within atheroma.⁸ Corticosteroid treatment has been proffered^{9,10} and shown by computed tomography in one case¹¹ to result in shrinkage of periaortic tissue. Although inflammation may rarely subside spontaneously, it usually does so after treatment with corticosteroids or, curiously, after surgery and even biopsy alone. In this case an endobiliary stent to bypass the stenosing lesion combined with an aneurysctomy resulted in a moderate fall in the erythrocyte sedimentation rate from 47 to 25 mm in the first hour.

Clearly, periaortitis affecting the pancreatic head may mimic pancreatic malignancy. A readily available serological diagnostic test, possibly involving ceroid,⁷ would prove useful. In the absence of controlled trials we can only speculate if corticosteroids may have helped in this case.

We are indebted to Dr M J Mitchinson for his helpful comments, advice, and encouragement.

- 1 Mitchinson MJ. Chronic periaortitis and periarteritis. *Histopathology* 1984; 8: 589-600.
- 2 Mitchinson MJ, Wright DG, Arno J, Milstein BB. Chronic coronary periarteritis in two patients with chronic periaortitis. *J Clin Pathol* 1984; 37: 32.
- 3 Sethia B, Darke SG. Abdominal aortic aneurysm with retroperitoneal fibrosis and ureteric entrapment. *Br J Surg* 1983; 70: 434-6.
- 4 Van Gossum A, Rubinstein M, Engelholm L, Cremer M. Common bile duct compression by an abdominal aortic aneurysm. *Endoscopy* 1986; 18: 69-70.
- 5 Perry JF, La Fave JW, Carpenter WB. Retroperitoneal fibrosis simulating carcinoma of the pancreas. Report of a surgically treated case complicated by fatal postoperative hemorrhage. *Minn Med* 1965; 48: 371-4.
- 6 Nix GAJJ, Van Overbeeke IC, Wilson JHP, Ten Kate FJW. ERCP diagnosis of tumors in the region of the head of the pancreas. Analysis of criteria and computer-aided diagnosis. *Dig Dis Sci* 1988; 33: 577-86.
- 7 Mitchinson MJ. Retroperitoneal fibrosis revisited. *Arch Pathol Lab Med* 1986; 110: 784-6.
- 8 Parums DV, Chadwick DR, Mitchinson MJ. The localization of immunoglobulin in chronic pancreatitis. *Histopathology* 1986; 61: 117-23.
- 9 Clyne CAC, Abercrombie GF. Perianeurysmal retroperitoneal fibrosis: two cases responding to steroids. *Br J Urol* 1977; 49: 463-7.
- 10 Mitchinson MJ, Withycombe JFR, Arden Jones R. The response of idiopathic retroperitoneal fibrosis to corticosteroids. *Br J Urol* 1971; 43: 444-9.
- 11 Feldberg MAM, Hene RJ. Perianeurysmal fibrosis and its response to corticosteroid treatment: a computerized tomography follow-up in one case. *J Urol* 1983; 130: 1163.