Traumatic neuroma at the tail of the pancreas following splenectomy

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Summary: A 50 year old man presented with abdominal pain and weight loss after a splenectomy performed 26 years ago for abdominal trauma. At laparotomy, a mass was found at the tail of the pancreas. Pathological examination showed this was a traumatic neuroma and revealed evidence of chronic pancreatitis. Traumatic neuroma may be a rare cause of a pancreatic mass, especially after previous surgery or trauma.

Introduction

We describe a case of traumatic neuroma at the tail of the pancreas following splenectomy. As far as we know, this is a previously unreported complication of splenectomy.

Case report

A 50 year old man had a 26 year history of episodic abdominal pain since a splenectomy for abdominal trauma resulting from a road traffic accident. For one year, his abdominal pain had become worse and he had lost two and a half stone in weight. The abdominal pain was associated with amylasaemia and a clinical diagnosis of chronic pancreatitis was made. Computerized tomography showed a mildly dilated pancreatic duct and calcification in the head of the pancreas. Endoscopic retrograde cholangiopancreatography was attempted on two occasions but failed. His condition deteriorated further and a laparotomy was performed. This revealed a hard mass at the tail of the pancreas adherent to the stomach and another mass on the head of the pancreas which was occluding the pancreatic duct. There was no sign of rupture of the pancreas or previous pancreatic surgery.

Distal pancreatectomy, cholecystectomy, a biliary bypass procedure and needle biopsy of the mass at the head of the pancreas were performed. The patient's symptoms improved after surgery and he remained well until his discharge, 16 days later. At follow-up 6 weeks later he was symptom-free.

Figure 1 Traumatic neuroma (arrow-heads) surrounding tail of pancreas.

Pathology

The distal pancreatectomy specimen measured 4.2 cm in length and 4.0×1.6 cm at its widest point. A few fibrous adhesions were present on the surface and a firm grey mass enveloped the distal end of the tail of the pancreas (Figure 1), measuring 2.6 cm in greatest dimension. The mass had an irregular outline and a uniform cut surface. The adjacent pancreatic tissue was unremarkable.

Histological examination of the mass at the tail of the pancreas indicated it was a traumatic neuroma (Figure 2). It was composed of large randomly arranged nerve trunks set within dense fibrous tissue which also included several lymphoid aggregates. Surrounding adipose and pancreatic tissue were infiltrated by the lesion and positive staining for S100 protein confirmed its neurogenic origin. The adjacent pancreatic tissue contained small areas of fibrosis and parenchymal atrophy, consistent with chronic pancreatitis. The needle biopsy from the mass at the head of the pancreas

Figure 2 Traumatic neuroma showing neural and fibrous proliferation with infiltration of pancreatic tissue (arrow-heads). (Masson's Trichrome $\times 63$).

consisted of pancreatic tissue which also displayed features of chronic pancreatitis.

Discussion

Traumatic neuromas arise when a nerve is transected and unable to re-establish continuity. There

have been several reports of traumatic neuroma following biliary¹⁻³ and occasionally intestinal surgery⁴ but not after splenectomy. Autonomic nerves from the splenic plexus travel with the splenic artery to supply the spleen and are in close proximity to the pancreas. The site of the lesion in this case suggests it was related to disruption of the autonomic nerves either at splenectomy or by trauma to the tail of the pancreas. Unfortunately details of the original surgery were not available as this occurred overseas during national service. The traumatic neuroma may have contributed to the abdominal pain although it is reported that those occurring after cholecystectomy are usually asymptomatic⁵ and the abdominal pain may have been entirely due to chronic pancreatitis. In conclusion, in the differential diagnosis of a pancreatic mass one should consider a traumatic neuroma, especially after previous surgery or trauma.

Acknowledgement

We thank Mr E. Bulmer for his help.

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