Paediatric necrotizing pancreatitis

Introduction

This report describes an overweight 13-year-old boy who presented with epigastric pain and vomiting as a result of necrotizing pancreatitis and who required an emergency necrosectomy.

Discussion

Acute pancreatitis is uncommon in children. Gallstones and infection are the most common causes (Alvarez Calatayud et al, 2003). It can also be a feature of multisystem disease. In many cases the cause is unknown. Hypertriglyceridaemia is a known risk factor for acute pancreatitis. The British Heart Foundation recognizes the increasing prevalence of obesity in children in Europe, and in a meta-analysis Martinez et al (2006) found that acute pancreatitis is not only more frequent in obese patients but obesity also increases the mortality from acute pancreatitis.

Biochemical investigation together with pancreatic imaging can help confirm diagnosis and direct management. As a biochemical marker, serum amylase is elevated in the majority of cases. However, serum lipase is more specific (Agarwal et al, 1990). C-reactive protein is used as a prognostic marker (Barauskas et al, 2004). Abdominal ultrasound scans are useful for identifying primary causes of pancreatitis. However, contrast-enhanced computed tomography scanning is more useful for detecting pancreatic necrosis (Balthazar et al, 1990).

Pancreatic surgery in the paediatric population is rare but indications for surgery include necrotizing pancreatitis. Prognosis can be variable and, if not treated promptly, pancreatitis can lead to high morbidity and mortality.

Conclusions

Pancreatitis is an uncommon condition in children but early involvement of the surgical team is essential. Indications for a pancreatic necrosectomy are the same as those in an adult. BJHM

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Figure 1. Computed tomography scan showing necrosed pancreas.

Figure 2. An intraoperative photograph of the necrosed pancreas.

Agarwal N, Pitchumoni CS, Sivaprasad AV (1990) Evaluating tests for acute pancreatitis. *Am J Gastroenterol* **85:** 356–66

Alvarez Calatayud G, Bermejo F, Morales JL et al (2003) Acute pancreatitis in childhood. *Rev Esp Enferm Dig* **95:** 40–4, 45–8

Balthazar EJ, Robinson DL, Megibow AJ, Ranson JH (1990) Acute pancreatitis: value of CT in establishing prognosis. *Radiology* **174:** 331–6

Barauskas G, Svagzdys S, Maleckas A (2004) C-reactive protein in early prediction of pancreatic necrosis. *Medicina (Kaunas)* **40:** 135–40

Martinez J, Johnson CD, Sanchez-Paya J, De Madaria E, Robles-Diaz G, Perez-Mateo M (2006) Obesity is a definitive risk factor of severity and mortality in acute pancreatitis: an updated meta-analysis. *Pancreatology* **6:** 206–9

Case Report

A 13-year-old boy was admitted with a 7-week history of worsening epigastric pain and vomiting. There was no prior history of similar episodes, jaundice or viral infection. There was no family history of hyperlipidaemia. His only comorbidity was obesity with a body mass index of 36.6 kg/m^2. On examination he was tachycardic and tachypnoeic with a tender epigastrium. Blood results showed a leucocytosis, normal liver function tests and normal cholesterol, C-reactive protein and amylase levels.

An ultrasound scan was performed but did not reveal any detail because of his body habitus. A computed tomography scan showed a necrotic pancreas and that gallstones were present.

The patient deteriorated, becoming increasingly septic, and was transferred across to a paediatric intensive care unit. Initial management consisted of fluid resuscitation, intravenous protein pump inhibitors, intravenous antibiotics, parenteral nutrition and surgical review. He initially responded to treatment, but then deteriorated with worsening sepsis requiring readmission to the paediatric intensive care unit. The repeat computed tomography scan (*Figure 1*) revealed bilateral pleural effusions, free fluid in the abdomen and peripancreatic inflammation.

He showed signs of abdominal compartment syndrome and was taken to theatre for a laparotomy. The operative findings were a necrotic pancreas with over 5 litres of free fluid. A pancreatic necrosectomy and laparostomy was performed (*Figure 2*). Between 60 and 70% of his pancreas was involved and removed.

The rest of his postoperative course was uneventful. He was discharged on Creon supplements, insulin and an antihypertensive. His weight had dropped from 106 kg on admission to 84 kg. After further surgical and paediatric review as an outpatient he later underwent an open cholecystectomy with an on-table cholangiogram.