CASE REPORT

Ultrasound Guided Thrombin Injection to Treat a Pseudoaneurysm Secondary to Chronic Pancreatitis

E. M. Armstrong,* A. Edwards, A. N. Kingsnorth, S. Freeman and C. A. Roobottom

Department of Radiology, Derriford Hospital, Plymouth PL6 8DH, UK

Introduction

Pseudoaneurysm is a rare but well recognised complication of chronic pancreatitis. It is reported to occur in 10% of chronic pancreatitis, with a rupture rate of 50% and mortality after rupture of 15–40%.

Radio- logical intervention to embolise and thrombose such aneurysms with coils is one method of treatment. Ultrasound guided (USG) injection of thrombin is now a well recognised technique for the treatment of peripheral pseudoaneurysms. A single case reports its successful use in pancreatic pseudoaneurysms, but no follow up was performed. We used USG thrombin injection of a pancreatic pseudoaneurysm with initially good results but the aneurysm recurred.

Report

A 66-year-old man with chronic pancreatitis due to alcohol was admitted with abdominal pain. There was no evidence of acute pancreatic inflammation. A CT scan was performed which showed a pseudoaneurysm in the body of the pancreas (Fig. 1). Four years previously he had developed a pseudoaneurysm of the gastroduodenal artery, which was successfully embolised with coils.

Angiography was repeated and the new pseudoaneurysm was found to be arising from a small branch of the superior mesenteric artery (Fig. 2). Catheter placement was attempted but it was too small to be selectively cannulated and coiling could not be attempted. Angiography of the coeliac trunk did not reveal a feeding vessel. The previously embolised gastroduodenal artery aneurysm remained occluded. In order to occlude the new pseudoaneurysm, percutaneous thrombin injection was attempted. Under ultrasound guidance a spinal needle was inserted into the pseudoaneurysm through the anterior abdominal wall and 750 IU of human thrombin injected (1000 IU in 2 ml, Tisseal Kit, Baxter). Thrombosis was immediate, as seen on ultrasound, and confirmed by contrast enhanced CT.

The pain subsided and the patient was discharged home the following day. Over the following 6 months, the patient was twice readmitted with recurrence of pain. Repeated CT on each occasion demonstrated the recurrence of the pseudoaneurysm which was treated with repeated injections of thrombin. Immediate thrombosis was again demonstrated on ultrasound and CT. On both the occasions pain was relieved by this intervention. If there is further recurrence then angiography with a view to coil embolisation of the small feeding vessel will be attempted prior to surgery.

Discussion

Pseudoaneurysm in chronic pancreatitis is a well-recognised and serious complication with high incidence of rupture and mortality. Conventional angiography and coiling is effective in many cases and has been shown to have better outcomes than surgical intervention if technically feasible. Thrombin injection has been shown to be effective and safe in the treatment of peripheral pseudoaneurysms and has been described for the treatment of pancreatic pseudoaneurysm. Concern has been raised as to the potential side effects of a bolus being released into the systemic circulation but follow up of this treatment...
for pseudoaneurysms due to femoral cannulation have not shown this to be the case.4–6

We have demonstrated that thrombin can be immediately effective in the treatment of pancreatic pseudoaneurysms but that recanalisation may occur. If this treatment is used, surveillance is mandatory to ensure against recurrence.

References


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