

# Traumatic pseudocyst of the pancreas – A case report

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## Summary

Blunt trauma to the pancreas is not common. The pancreatic injury can range from simple bruising to complete transection often associated with other visceral injuries. Pseudocyst of the pancreas is a late complication presenting usually within six weeks of the injury. The treatment of choice is distal pancreatectomy.

*Key words:* Pancreas, pancreatectomy, trauma, pseudocyst.

## Introduction

Blunt injuries to the pancreas are not common since it lies retroperitoneally. However as it straddles the first lumbar vertebra, it may be crushed against the vertebral body by a severe force or a milder but sudden one to the upper abdomen before the abdominal musculature has had time to guard against it. Other viscerae, e.g. the duodenum, are often simultaneously injured either because of the considerable force sustained or because of their close association with the pancreas. Isolated injury to the pancreas is rare. It was first reported in 1856 and since then there have been several of such cases.<sup>1</sup> We report here a case of blunt trauma to the pancreas complicated by the development of a pseudocyst.

## Case report

M.R. a 22 year old Malay man was involved in a road traffic accident while riding his motorcycle. He sustained abrasions on the epigastrium and a fracture of the neck of his left femur. Serum amylase was initially normal (below 90 IU/L) but increased to 400 IU/L after forty-eight hours. A clinical diagnosis of traumatic pancreatitis was made. He improved on conservative management and was discharged.

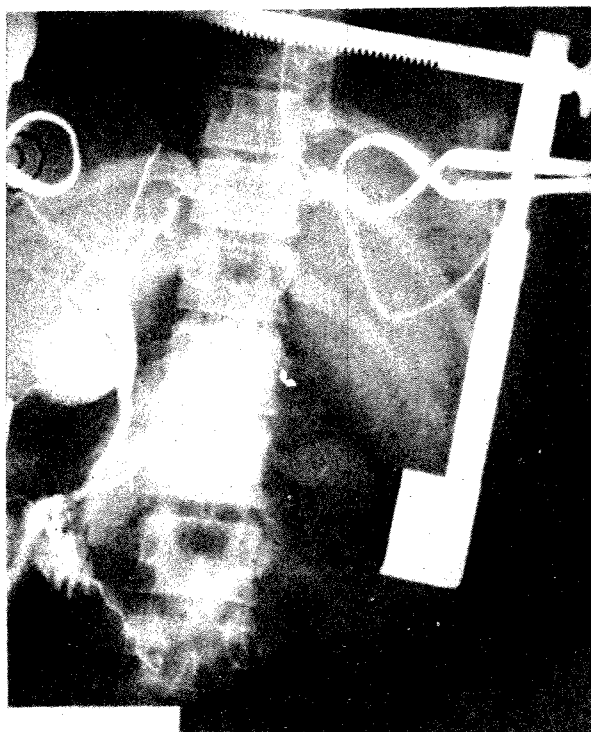
Six months later, he was readmitted for upper abdominal pain which had persisted since discharge from the hospital. On examination, he had low grade fever, pulse rate of 90 beats per minute, BP of 130/80 mmHg and a tender, guarded epigastrium. Bowel sounds were present. Serum amylase was 2805 IU/L. A diagnosis of acute pancreatitis was made and he was treated by intravenous fluid and nasogastric suction. There was no improvement of the patient clinically. An ultrasound of the abdomen revealed the presence of a pseudocyst. Endoscopic Retrograde

Cholangio-Pancreatogram failed to display the pancreatic duct. He was in persistent pain. He developed fever, vomiting and hiccups. A tender mass became palpable in the left upper abdomen. A diagnosis of infected pseudocyst was made an emergency laparotomy was performed.

At operation, a large pseudocyst of the pancreas was found. It pointed through the gastrocolic omentum. The walls were thickened and it contained eight hundred millilitres of turbid yellowish fluid which when cultured, did not grow any organisms. A T-shaped stab cystogastrostomy was performed. Postoperatively, the patient initially improved but three days later his symptoms recurred. The abdominal mass reappeared (Fig. 1). Gastroscopy failed to visualize the cystogastrostomy opening. Two weeks later, the patient was reoperated. The findings were similar to that of the first operation. A litre of clear fluid was drained from the recurrent pseudocyst which was sterile upon culturing. A pancreatogram (Fig. 2) was performed via a duodenotomy. This showed an abrupt ending of the pancreatic duct at the left lateral border of the vertebral body. The pancreas distal to that was fibrotic and atrophic. Distal pancreatectomy was performed. The spleen was preserved, being vascularised by the short gastric vessels. The pancreatic duct was separately sutured and the pancreatic stump was oversewn with mersilene. The pancreatic bed was drained and the abdomen was closed.



**Fig. 1** Traumatic Pseudocyst of the Pancreas.



**Fig. 2** Pooling of contrast in the capillary bed of the right lobe of liver.

The patient recovered uneventfully and was discharged well nine days later. When reviewed at seven months, he remains well and has gained seven kilograms in weight.

### **Discussion**

In a review of pancreatic trauma,<sup>2</sup> about half of the cases were a result of nonpenetrating trauma to the abdomen. Forty-five percent of these were due to automobile accidents.

Pancreatic trauma can range from simple bruising to total transection of the gland with associated other visceral injuries. Thus, the clinical picture can vary greatly. Delayed onset of abdominal pain which progresses with time is said to be characteristic of pancreatic injury.<sup>1</sup> The pain is mainly epigastric with radiation to the back or either flank. Nausea and vomiting are common. Serum amylase is usually raised. In this patient, the raised serum amylase was detected forty-eight hours after the injury.

The complications that follow pancreatic injury include pseudocyst of the pancreas, pancreatic fistula and intestinal obstruction.<sup>1</sup> Pseudocyst of the pancreas usually follows acute pancreatitis. In a review of 183 cases of pancreatic cysts,<sup>3</sup> there were only 15 pseudocysts of traumatic origin as compared to 79 pseudocysts of inflammatory causes. The formation of the pseudocyst usually follow milder trauma to the pancreas. It usually presents within six weeks of the injury but may appear even after one year.

A pseudocyst of the pancreas could be excised, marsupialised and drained externally or, more

commonly, drained internally via anastomosis with the digestive tract. Pseudocyst of the pancreas following trauma is different from that of inflammatory origin because the main pancreatic duct may be partially or completely transected. The injured pancreatic duct usually strictures off with fistula formation. The pancreatic duct leakage perpetuates the pseudocyst. The body and tail of the pancreas distal to the strictured duct develops chronic pancreatitis.

This was evident in this patient. The treatment of choice is distal pancreatectomy.<sup>3</sup> It can be performed safely and avoids complications such as anastomotic leaks, fistula formation or recurrence of pseudocyst found in other nodes of treatment. A stab cystogastrostomy is not recommended because recurrence of the pseudocyst, though not common, has happened. A formal cystogastrostomy<sup>1</sup> has been performed with acceptable results.

Splenectomy was not performed here because it was possible to separate it from the tail of the pancreas and it was viable at the end of the operation. It was thought that the spleen with its hematological and immunological functions would be useful to the patient. In conclusion, traumatic pancreatitis is not common. Complications such as pseudocyst formation should be watched for and the treatment of choice is distal pancreatectomy.

## References

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