# Central Pancreatectomy for Solid Pseudopapillary Tumour of Pancreas in A 13-Year Girl

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## ABSTRACT

Solid Pseudopapillary Tumour (SPT) is a very rare tumour of the pancreas. A *13-year* girl presented to us with the complaint of upper abdominal pain and non-bilious vomiting for 15 *days*. Preoperative diagnosis of SPT involving the body of the pancreas was made by CT scan and ultrasound- guided Trucut biopsy. A sparingly rare procedure of central pancreatectomy with distal pancreatico-jejunostomy was performed. This procedure offers excellent results in benign and low-grade malignant pancreatic neck and body tumours. In addition, it preserves functional elements of the pancreas and also eliminates the infective and haematological effects of splenectomy.

**Key Words:** *Solid pseudopapillary tumour, Central pancreatectomy, Pancreatic tumours.*

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## INTRODUCTION

Solid Pseudopapillary Tumour (SPT) is a very rare tumour of the pancreas, having the low potential to malignant transformation with incidence of less than 2% of all exocrine tumours of pancreas.[1] This tumour is usually seen in females in their thirties and often involves the body and tail of pancreas.[2] Surgical resection is the ideal treatment even in case of local or distant spread.[3] Distal pancreatectomy is often performed with or without splenectomy and some surgeons prefer pancreaticoduodenectomy (Whipple's procedure). Central pancreatectomy is an alternative and safe surgical approach in benign and low-grade malignant pancreatic neck and body tumours.[4]

This article reports an unusual presentation of SPT where the lesion was about 6 cm in size involving the neck with extension to the body of pancreas and causing gastric outlet obstruction, in which central pancreatectomy with distal pancreatico-jejunostomy was performed.

## CASE REPORT

A 13-year girl presented with symptoms of epigastric pain and vomiting for 15 days. The pain was of sudden onset, moderate in intensity, localised to the epigastrium and having no aggravating or relieving factors. It was associated with indigestion as well as repeated episodes of vomiting.

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General physical as well as systemic examinations were unremarkable. The abdomen was soft and non-tender with audible bowel sounds. No palpable mass or visceromegaly was noted.

Ultrasonography (USG) of the abdomen revealed a large, 6×6 cm, irregular well-defined solid mass of heterogeneous pattern seen not separable from the head and body of pancreas. Computed tomography (CT) scans of the abdomen with intravenous and oral contrast had a similar finding with well-defined soft tissue mass, originating from the body of the pancreas, having a mass effect on the first part of duodenum (D1) and splenic vein.

Surgical resection was planned. Under general anaesthesia, the abdomen was opened through a transverse incision. Lesser sac was opened. A large pancreatic mass involving the neck and body of pancreas was seen. The stomach and D1 were retracted upward; lower border of the pancreas was freed. A superior mesenteric vein was skeletonised and retro-pancreatic tunnel was created and pancreas was divided at neck just proximal to the tumour. The duct on the pancreatic head side was identified and ligated first and then oversewn along with pancreatic parenchyma. The body of the pancreas bearing the tumour was freed from the splenic vein by dividing and securing the small pancreatic veins draining into the splenic vein. Distally the pancreas was again transected at its tail just distal to the tumour, thus removing the pancreatic body along with the tumour (central pancreatectomy) and sparing its tail. Pancreatico-jejunostomy with pancreatic tail was performed by using duct to mucosa technique over a small feeding tube stent (Figures 1-4). Postoperatively, the patient recovered uneventfully and was sent home on 8$^{th}$ postoperative day. Histopathology of the final specimen showed SPT with clear margins (Figure 5).

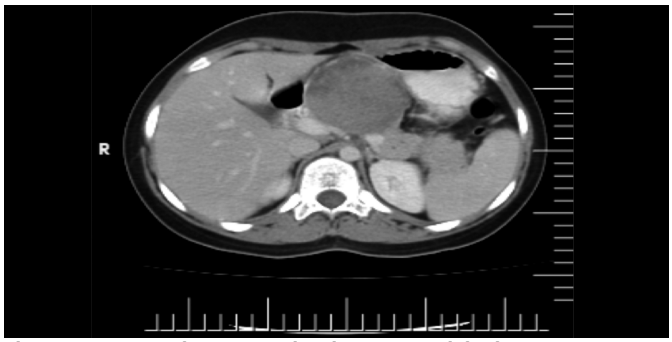


**Figure 1: Preoperative CT scan showing pancreatic body tumour.**

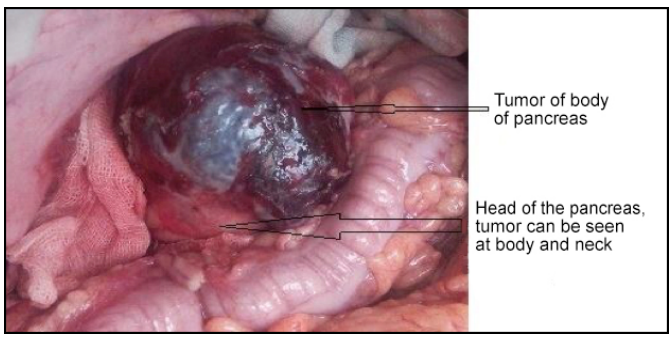


**Figure 2: Peroperative picture showing large tumour of the body of pancreas.**

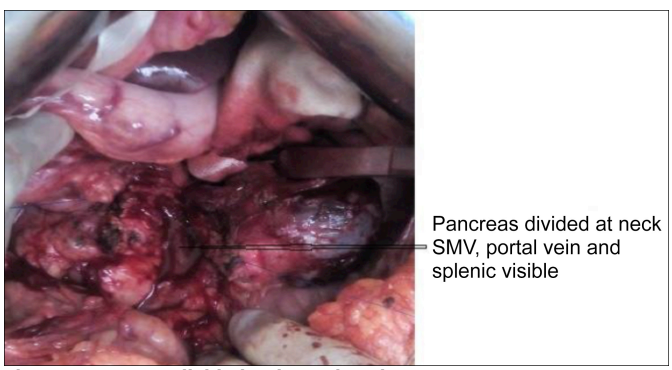


**Figure 3: Pancreas divided at the neck region.**

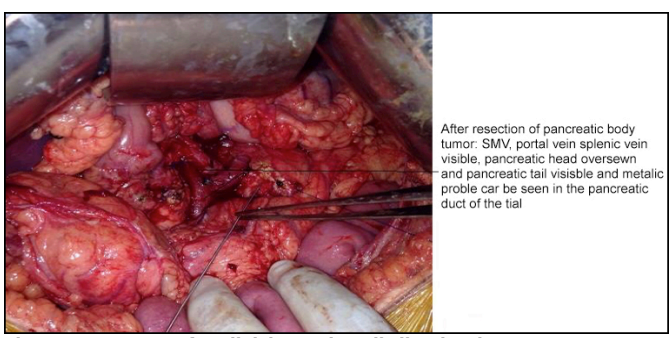


**Figure 4: Pancreas after division at the tail, distal to the tumour.**

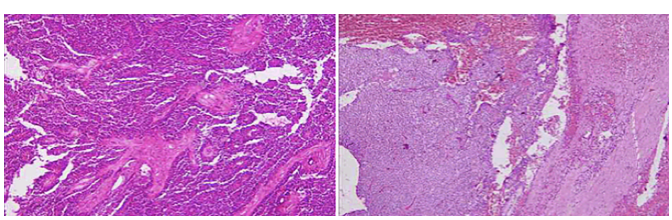

**Figure 5: Histopathology of the final specimen showing solid pseudopapillary neoplasm of the pancreas.**

## DISCUSSION

SPT is a rare pancreatic tumour, with a low potential for malignant transformation. Frantz described SPT for the first time in 1959.[5,6] This neoplasm is more common in young women with a male-to-female ratio of 1:10 and a mean age of 22 years (at presentation). Usually, patients with this tumour are asymptomatic or have minimal symptoms.[7]

The majority of SPTs reveal benign behaviour. Malignancy may be seen in 15% of cases, which often manifests with metastasis to adjacent structures (liver and omentum).[8] Most of these tumours are located in the pancreatic body and tail.[2]

USG and especially CT scan abdomen are good diagnostic modalities for these tumours but Magnetic Resonance Imaging (MRI) better defines these hypervascular, encapsulated tumours with both solid and cystic components. For preoperative tissue diagnosis, endoscopic USG (EUS)-guided FNA biopsy can be attempted. Resection of tumour is the ideal treatment, even in cases of local or distant spread. Generally, it has a good 5-year survival which is as high as 97% after resection.[3]

Among different procedures, pancreatoduodenectomy (Whipple's procedure), and distal pancreatectomy, which may or may not include splenectomy, are common, whereas central pancreatectomy is an alternative approach. The complications of pancreatoduodenectomy include pancreatic leak (early) and biliary strictures (late), whereas distal pancreatectomy may lead to insulin-dependent diabetes mellitus and post-splenectomy infections.[4]

So, central pancreatectomy with pancreatico-jejunostomy is a procedure that offers excellent results in benign and low-grade malignant pancreatic neck and body tumours. In addition, it preserves functional elements of the pancreas and eliminates the infective and haematological complications of splenectomy.

### PATIENT'S CONSENT:

Consent was taken from the patient, regarding the procedure as well as using images for publication without name / identity disclosure.

### COMPETING INTEREST:

The authors declared no competing interest.

### AUTHORS' CONTRIBUTION:

AWD: Performed the procedure.
SZ: Wrote the paper and assisted with the procedure.
HA: Assisted the Consultant in the procedure.
IH: Prepared the patient preoperatively.
All the authors have approved the final version of the manuscript to be published.

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