

## Pancreaticojejunostomy in proximal pancreatic transection: A viable option

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### Abstract

Complete pancreatic transection following blunt abdominal trauma is not a common injury. Distal pancreatectomy with or without splenectomy is routinely performed if the transection is to the left of the superior mesenteric vessels. We performed pancreaticojejunostomy on a six-year-old female patient who presented with complete transection at the pancreatic neck following blunt abdominal trauma. The aim was to preserve the pancreatic parenchyma and the spleen and assess the feasibility of the procedure. The patient has been followed for more than one year and is doing well. We conclude that the procedure should be considered in proximal pancreatic transection, particularly in the pediatric age group.

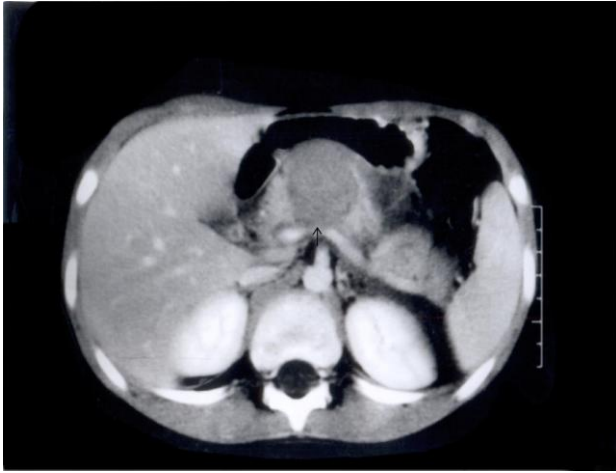
**Keywords:** Complete pancreatic transection, pancreaticojejunostomy, proximal, pancreatic neck.

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Complete pancreatic transection in children is not a common injury; nevertheless, it is associated with significant mortality and morbidity [1]. Distal pancreatectomy with or without splenectomy has been the preferred procedure. While the former may sacrifice significant pancreatic parenchyma and lead to pancreatic insufficiency, the later renders the child vulnerable for post splenectomy infections [2-4]. We performed pancreaticojejunostomy on a six-year-old female patient who presented with complete transection of the pancreatic neck following blunt abdominal trauma.

The child had a traffic accident, and presented to us as a case of peritonitis approximately 12 hours after the injury. Ultrasonography of the abdomen revealed significant free fluid in the peritoneal cavity. Since the patient was hemodynamically stable, a computed tomography (CT) scan of the abdomen was performed, which showed a complete transection of the pancreas at the neck with hemoperitoneum. The patient was shifted to the operative theatre for laparotomy. Peroperatively calcific deposits were present over the greater omentum, indicating

pancreatic injury. The lesser sac was opened by incising the gastrocolic omentum. Hematoma found in the region of the head and neck was cleared and the transection was identified at the pancreatic neck (Figure 1). There was no associated major vascular injury. The distal pancreatic remnant was mobilized for about 1.5 – 2 cm of the retroperitoneum by incising the peritoneum along the inferior and the superior aspect, preserving the inferior mesenteric vein and the splenic artery. The proximal stump was closed with continuous prolene sutures and the distal stump was anastomosed with the jejunum in a Roux-en-Y fashion after freshening of the edges, again with prolene sutures. An omental wrap of the anastomosis was then performed. Tube drains were placed in Morrison's space and in the pelvic cavity. The patient began orally with liquids on the fourth day postoperative and solids on the fifth day. Drains were removed on the sixth postoperative-day after testing for amylase of the drainage fluid, which was within the expected range. The patient is under follow-up for more than one year and is doing well.



**Fig. 1** Computed tomographic scan showing complete pancreatic transection at neck with overlying hematoma (arrow).

The reported incidence of complete transection of the pancreas following blunt abdominal trauma is approximately 1-2%, however, the incidence in children is even less [5, 1]. The transection to the left of the superior mesenteric vessels is usually managed by distal pancreatectomy with or without splenectomy [2, 1]. Splenic salvage, although suggested by many studies, is time-consuming and is associated with significant blood loss and hence may not be technically feasible in all patients [5, 3]. There are reports of successful conservative management; however, the same is associated with significant morbidity in the form of pseudocyst formation and its subsequent management [6, 7]. Endoscopic retrograde cholangiopancreatography (ERCP) and pancreatic duct stenting have emerged as viable options, particularly in cases with a diagnostic dilemma or delayed sequel. Nevertheless, the role of pancreatic duct stenting and repair in emergent situations is still unclear [8]. Of late, parenchyma preserving surgery has gained momentum, possibly as an attempt to retain the viscera and avoid the complications that arise from their absence [9, 10]. Pancreaticojejunostomy and pancreaticogastrostomy are two possible options. These procedures have not been performed routinely because of being technically demanding, but they can be performed safely in stable patient with good results, particularly in patients with a proximal transection. Although there are reports of increased complication rates after pancreaticoenterostomy, some of the recent studies have been contradictory. The incidence of pancreatic fistula formation has been more or less the same after distal pancreatectomy and pancreaticoenterostomy: 30-50% and 6-50%, respectively [10]. However, the possibility of pancreatic insufficiency and the risk of post-splenectomy infections remain a significant concern after distal pancreatectomy and splenectomy[4].

We conclude that pancreaticojejunostomy for complete proximal pancreatic transection is a viable option. It preserves the spleen as well as the pancreatic parenchyma and should be considered in stable patients, particularly in the pediatric age group.

## Conflict of Interest

The authors unanimously rule out any conflict of interest or reason for financial support.

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