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2. Advanced HCC; How to approach HCC with portal vein invasion, with preserved liver function?

2) Practice

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Panel 2.

Current Evidence and Practice in Pancreatic Surgery

1. Extent of resection in distal pancreatectomy for pancreatic body cancer: Special reference to LN dissection and retroperitoneal margin

1) Evidence

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Because the pancreatic body and tail cancers are often found in a large size than those of the head, unresectable cases are more common and the recurrence rate after resection is also higher. The goals of pancreatic cancer surgery are to obtain tumor free margins and perform a sufficient regional

lymphadenectomy. However, conventional distal pancreatectomy, which is performed in the left-to-right direction along the anterior border of Gerota's fascia, is inappropriate for achieving this goal because the tumor easily infiltrates the retroperitoneum and spreads to lymph nodes at an early stage.

Lymph Node Drainage

The lymphatic drainage of the body and tail of the pancreas has been reviewed in detail by O'Morchoe [1]. There are two main groups. One forms a ring around the pancreas (ring of nodes) (Fig. 1) while the second is related to the upper abdominal aorta between the celiac and superior mesenteric artery (string of nodes) (Fig. 2).

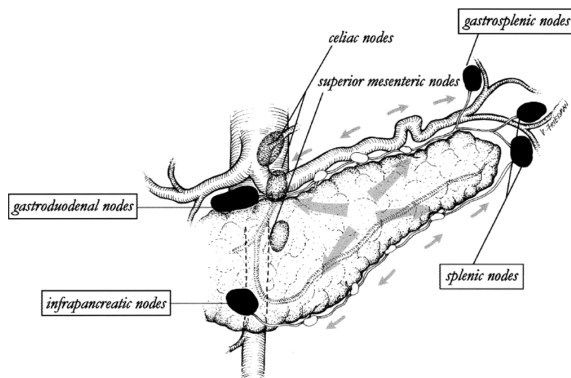


Fig. 1.

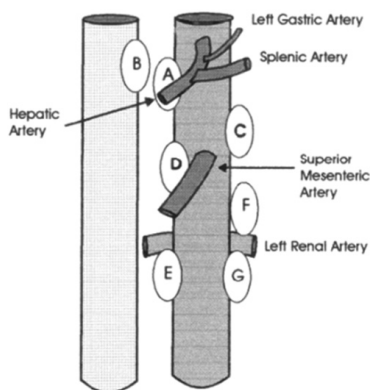


Fig. 2.

Kayahara et al. [2] performed pathologic mapping of lymph nodes in cancer of the body and tail of the pancreas in 20 patients. Three node groups were in-

involved in more than 20% of patients: node along the superior and inferior borders of the pancreas (nodes 11 and 18) and the gastroduodenal node (node 8). Fujita et al. [3] described the results of pathological lymph node mapping in 50 patients with adenocarcinoma of the body and tail of the pancreas. They identified a group of small nodes attached to the pancreas, seen only on histological slides. These nodes were involved by cancers in approximately 75% of patients. Some reports have been described, for body and tail pancreatic cancers, lymph node metastatic sites involve the preaortic field from the celiac trunk to the IMA and the left paraaortic area [4-6]. On the basis of this information, Strasberg et al. [7] RAMPS (Radical antegrade modular pancreatectomy) operation designed to remove N1 nodes should remove nodes of the ring, the celiac lymph nodes, and the nodes along the front and left side of the superior mesenteric artery.

Retroperitoneal Margin

Distal pancreas lies within the pararenal fascial space, that is, behind the peritoneum and in front of a distinct layer of anterior renal fascia (Fig. 3). So, the anatomic planes for the posterior margin, which is the one that is most often positive, are based on the relationship of the fascial planes of the retroperitoneum to the posterior surface of the pancreas.

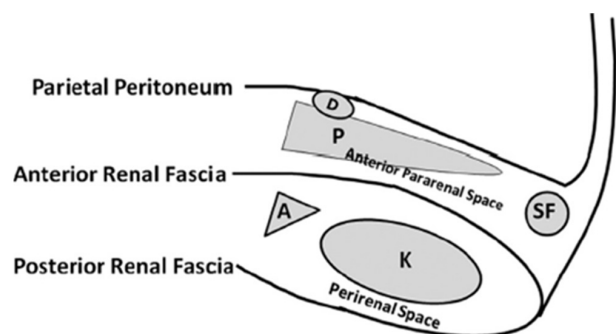


FIGURE 3 Fascial spaces of the retroperitoneum. A indicates left adrenal gland; D, duodenum; K, kidney; P, pancreas; SF, splenic flexure of colon.

The traditional approach of left-to right pancreatectomy is associated with a high positive

tangential margin rate of the organ. In 2003, Straberg et al. [7] described a novel approach for resection of this part of the pancreas called RAMPS. The RAMPS procedure attempts to maximize the chance of getting negative tangential margins by placing the resection plane behind the anterior renal fascia (anterior RAMPS) when the tumor has not penetrated the posterior capsule of the pancreas on preoperative CT scans, and behind the adrenal gland and Gerota's fascia when it has (posterior RAMPS) (Fig. 4). Recently, they reported that forty-two (89.3%) of 47 patients had negative tangential margins [8].

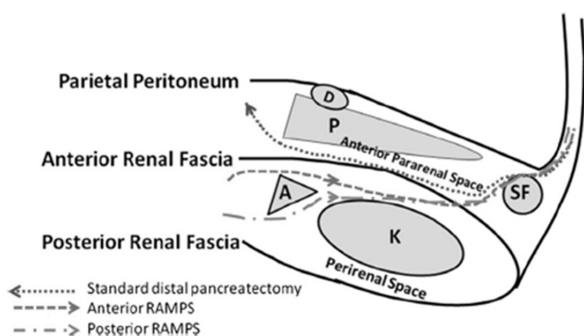


FIGURE 4 Planes of posterior margin and direction of dissection in different types of distal pancreatectomies.

Extended operations

Pancreatic cancer of the body and tail poses a unique management dilemma due to the often locally advanced nature with involvement of surrounding vascular structures. Extended operations may include resection of the body and tail of the pancreas with vascular resection (PV and celiac trunk) and retroperitoneal clearance of the tumor, which is always difficult to achieve completely. In the last 10 years many studies have been published regarding PV resection and reconstruction, and the resectability rate for tumor-free margin (R0 resection) is increased [9]. The technique of en-bloc celiacaxis resection has been demonstrated to be feasible for highly selected patients (Fig. 5) [10]. But, the reported complication rate is very high (48-92%). Results are mixed with some series reporting few or no long-term survivors, whereas other report long-term survival at approximately 20% [8].

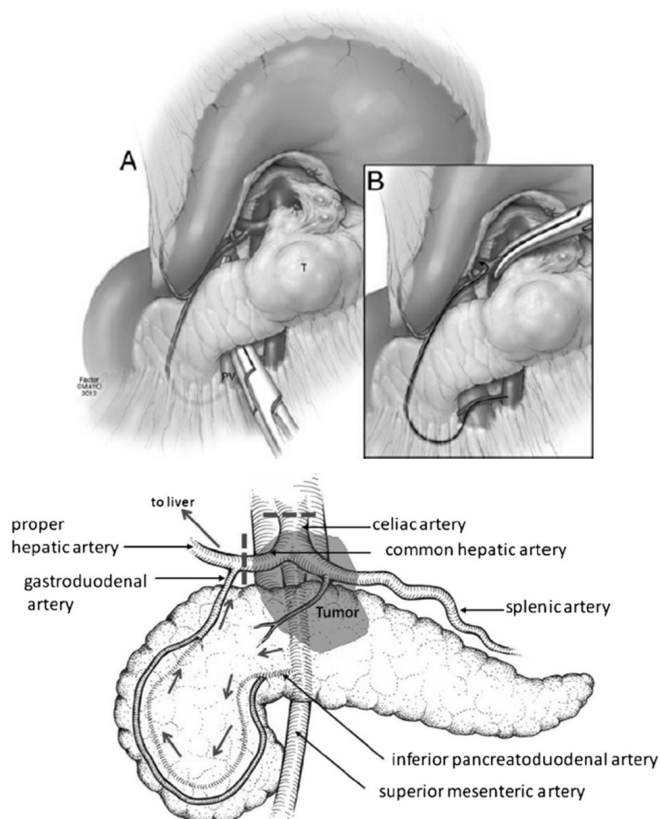


Fig. 5.

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1. Extent of resection in distal pancreatectomy for pancreatic body cancer: Special reference to LN dissection and retroperitoneal margin

2) Practice: Panel discussion

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2. Surgical drain after pancreatectomy

1) Evidence

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The placement of closed suction drains after surgery has been a common practice. However, there is an debate regarding their benefits and risks in pancreatic surgery. Consequently, the use of surgical drains is mainly characterised by tradition and personal experience and the attitude of the surgeon rather than by empirical data. Several randomized controlled trials, systematic reviews and meta-analyses have demonstrated no benefit or even an increased risk of postoperative complications of drains after various gastrointestinal procedures including hepatectomy, appendectomy, cholecystectomy, colectomy and gastrectomy.

Two ideas are behind the decision to place drains after pancreatic surgery. Firstly, there is a need for a therapeutic or prophylactic strategy to remove intraabdominal fluid or contamination (seroma, haematoma, bile, pancreatic juice) in order to prevent or control postoperative complications. Secondly, they may also serve as a diagnostic tool for the monitoring and early identification of any leakage or hemorrhage. However, intra-abdominal drains have been associated with an increased risk of ascending wound infections, delayed gastrointestinal passage, abdominal pain, decreased pulmonary function and prolonged hospital stay. A number of clinical studies have investigated the role of drains in pancreatic surgery indicating no benefit or even a higher risk of developing intra-abdominal complications increasing with the time of its removal. These studies, however, do not provide sufficient evidence to either abandon drains after pancreatic surgery or to define an optimal time for their removal.

Prospective randomized study conducted at the