Laparoscopic Distal Pancreatectomy

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Indications

- Malignant tumor of the body or tail of the pancreas located left of the superior mesenteric vein deemed resectable by high-quality cross-sectional imaging
- Benign tumors of the body/tail of the pancreas
- Chronic pancreatitis localized to the body/tail of the pancreas refractory to endoscopic management
- Pseudocyst of the tail of the pancreas

Essential Steps

1. Supine position on a split-leg bed or in the lithotomy position to allow surgeon positioning between the legs of the patient.
2. Mark open and hand port incisions in the event these should be rapidly needed during the operation.
3. Enter the peritoneal cavity, establish pneumoperitoneum, and place an initial port at the umbilicus or superior/left of the umbilicus.
4. Introduce the laparoscope and perform a thorough exploration for distant disease including liver metastasis, peritoneal nodules, or enlarged lymph nodes outside of the planned resection. Send biopsies of suspicious lesions for frozen section.
5. Place additional ports: one subxiphoid port, two staggered ports in the low/mid left abdomen to prevent instrument interference. An additional port can be placed in the right upper quadrant for retraction if necessary.
6. Expose the body and tail of the pancreas by separating the colon from retroperitoneal and splenic attachments.
7. Incise the gastrocolic ligament to enter the lesser sac.
8. Retract the stomach superiorly using an instrument through the subxiphoid port.
9. Expose the inferior border of the pancreas by separating the transverse mesocolon from retroperitoneal attachments.
10. Mobilize inferior margin of the pancreas.
11. Identify the superior mesenteric vein, inferior mesenteric vein, splenic vein, splenic artery, and hepatic artery.
12. Bluntly mobilize behind the pancreas with a finger through a hand port or with a laparoscopic Kittner dissector.
13. Transect the pancreas with an Endo GIA™ stapler (4.8 mm).
14. The splenic vessels can be transected separately with a vascular load of the Endo GIA stapler.

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15. Dissect the pancreatic tail from the retroperitoneum in a medial-to-lateral direction.
16. *If splenectomy*:
    - *Gently apply traction on the spleen medially and divide the lienorenal ligament.*
    - *Divide the splenocolic ligament to free the left colon inferiorly.*
    - *Ligate the short gastric vessels.*
    - *Mobilize the spleen and pancreas from retroperitoneal attachments.*
    - *Ligate and divide the inferior mesenteric vein.*
17. Retrieve specimen.
18. *The pancreatic staple line can be oversewn or reinforced with fibrin glue as needed.*
19. *Place and secure a drain adjacent to the staple line.*

Note This Variation

- Port placement
- Preservation of the spleen
- Order of transection of the splenic artery, vein, and pancreatic parenchyma

Complications

- Bleeding
- Pancreatitis or pancreatic leak
- Subphrenic abscess

Template for Operative Dictation

Preoperative diagnosis *Tumor of the body/tail* of the pancreas

Procedure Laparoscopic distal pancreatectomy *with splenectomy*

Postoperative Diagnosis Same

Indications This ___-year-old *male/female* had *tumor* isolated to *the body/tail* of the pancreas. Laparoscopic distal pancreatectomy with *splenectomy/splenic preservation* was elected.

Description of Procedure The patient was placed in the *supine split-leg/lithotomy position*. Timeouts were performed using both preinduction and pre-incision safety checklists to verify correct patient, procedure, site, and additional critical information prior to beginning the procedure. General endotracheal anesthesia was induced. Preoperative antibiotics were given. A Foley catheter and a nasogastric tube were placed. The abdomen was prepped and draped in the usual sterile fashion. A *12 mm Hasson port/Veress needle* was placed superior and to the left of the umbilicus, and carbon dioxide pneumoperitoneum was induced up to a pressure of 15 mmHg. The laparoscope was introduced and peritoneal exploration was done for distant disease and *none was noted/*(*describe distant disease location and biopsy if performed*, *procedure generally terminated at this point*). Three 5 mm ports were introduced under direct vision: one at the subxiphoid and two in the mid left abdomen. The left colon was dissected free from the splenic and retroperitoneal attachments. The lesser sac was entered by incising the gastrocolic ligament in an avascular plane near the transverse colon. The splenic flexure was mobilized and the greater omentum was divided along the greater curvature of the stomach. Stomach is retracted superomedially through the epigastric port. *Laparoscopic ultrasound was used to identify the tumor and the blood vessels to determine the line of transection and preservation of blood vessels.*

[Choose One:]

If splenectomy: *The spleen was mobilized by incising the splenocolic ligament. The splenic flexure was fully mobilized. Gentle traction on the spleen was applied medially to divide the lienorenal and splenocolic ligaments to free the left colon inferiorly. The short gastric vessels were ligated. The spleen and pancreas were mobilized from their retroperitoneal attachments, and the inferior mesenteric vein was divided and ligated. The spleen and pancreas were dissected free medially to the junction of the splenic vein and the SMV. The splenic artery and splenic vein were transected with vascular Endo GIA staplers at the level of the pancreatic transection. The pancreas was transected with an Endo GIA stapler* (*4.8 mm*).

If splenic preservation: *The inferior margin of the pancreas was mobilized by developing a plane between the root of the transverse colon and the anterior fascia of the pancreas. Splenic vessels were identified and isolated, and a plane is created between the pancreas and the splenic vessels. The Endo GIA stapler (4.8 mm) was used to transect the pancreas. The electrocautery/energy device was used to divide the vasculature between the pancreas and the splenic vessels. The distal pancreas specimen was dissected from the retroperitoneum in a medial-to-lateral direction until it was completely freed.*

The specimen was retrieved in an Endo Catch bag. *The pancreatic staple line was reinforced with fibrin glue. A Blake drain was secured and port sites were closed in a standard fashion.*

A debriefing checklist was completed to share information critical to postoperative care of the patient. The patient was extubated and was taken to the postanesthesia care unit in stable condition. The patient tolerated the procedure well and no complications were noted.

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