

Use of a Computer-controlled Bipolar Sealing System in Panceraticoduodenectomy

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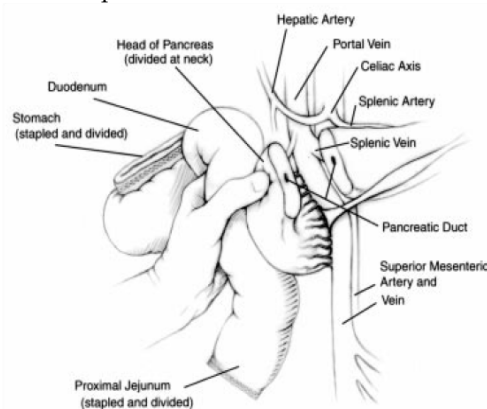
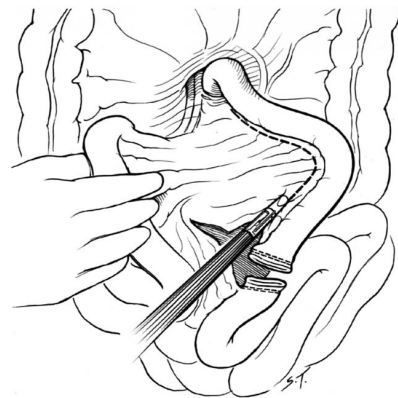
Recently a computer-controlled bipolar sealing system, LigaSure™ (Tyco Healthcare, Valleylab, Boulder, USA), has been introduced in laparoscopic surgery. This device is designed to apply a precise amount of mechanical pressure and radiofrequency energy to tissue and is to seal blood vessels up to 7 mm in diameter by fusing denatured collagen and elastin fibers.¹

LigaSure™ technology has been proven to significantly save operative time and costs and to reduce the complexity of operative procedures,^{2,3} but at present it is used almost exclusively to divide tissues, especially the mesentery.⁴ Although there are no specific manufacturer's recommendations regarding except blood vessels, LigaSure™ appears safe and effective on lymphatics in inguinal lymphadenectomy procedures,⁵ even thoracic duct sealing.⁶

Since 1935, pancreaticoduodenectomy remains a formidable challenge to many surgeons and has undergone numerous technical modifications, but little focus has been directed to the dissection and ligation of the mesenteric blood supply to the first portion of the jejunum and the attachments of the uncinate process of the pancreatic head to the posterior areolar tissue at-

tachments of the retroperitoneum and to the vascular branches of superior mesenteric artery.

In 2001 Povoski⁷ applied EndoGIA™ stapler (United States Surgical Corporation, Norwalk, USA) for division of the proximal jejunal mesentery and division of the uncinate process during pancreaticoduodenectomy. Howard et al.⁴ performed jejunal resection only during pancreaticoduodenectomy using



LigaSureTM.

Over the last 15 months, we have performed 18 pancreaticoduodenectomies using 5 mm LigaSureTM V or 5 mm laparoscopic instrument for division of the proximal jejunal mesentery, division of the uncinate process, and dissection of lymph nodes. We have had no postoperative bleeding or retroperitoneal hematomas directly attributable to the use of the LigaSureTM device.

After transection of the proximal jejunum with a linear stapler, the LigaSureTM V or 5 mm laparoscopic instrument is used to coapt, seal, and then transects the mesentery in sequential fashion back towards the ligament of Treitz.

The attachments of the uncinate process of the pancreatic head to the retroperitoneum and to the vascular branches of superior mesenteric artery are divided parallel to the superior mesenteric artery with LigaSureTM V or 5 mm laparoscopic instrument. The regional lymph lymph nodes and superior mesenteric vein are already dissected.

References

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