

Initial Experience with Complete Laparoscopic Pancreaticoduodenectomy for Periampullary Malignancy using FAST LOIn technique: Insights from a Junior/Young Surgical Team at a University Hospital

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Introduction

Laparoscopic pancreaticoduodenectomy (LPD) is an intricate surgical procedure that has yet to garner widespread acceptance. This study aimed to assess the safety, feasibility, and clinical benefits of LPD using a novel intracorporeal knotting technique where the suture knot lies outside the anastomotic lumen. By ensuring that the suture knot is placed externally, this method may contribute to a lower incidence of complications and better overall surgical results.

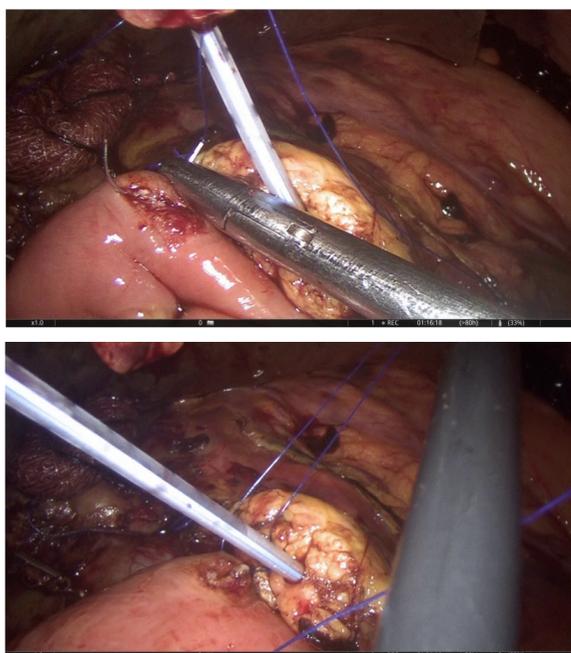
Methods

A prospective analysis (intraoperative, postoperative, and short-term complication data) of n=7 LPD procedures performed between January 2018 and December 2023 was conducted. The surgical team, consisting of two surgeons below 40 years of age, each with over 20 open pancreaticoduodenectomies and more than 5 years of laparoscopic experience, utilized a 6-trocar technique. A 30° scope with Full HD/4K technology provided vision during both the resection and reconstruction phases.

The surgeons used an indigenous point of technique especially for intracorporeal anastomosis – pancreatojejunostomy and hepaticojejunostomy so that the suture knot lies outside the anastomotic lumen. This technique was labelled as **FAST LOIn technique – First Angle Stitch Left (limb) Outside In for the initial start of anastomosis**. This technique helps in reducing postoperative complications, improving anastomotic integrity, and potentially enhancing patient recovery outcomes. The study's findings suggest that this approach could make LPD a more viable option for patients, offering advantages over traditional methods.

Results

All patients underwent successful laparoscopic procedures without conversion. N=5 cases involved distal cholangiocarcinoma, and n=2 presented ampullary malignancy. Histopathological analysis revealed negative resection margins in all cases. Preoperative endo-biliary drainage was performed in 5 out of 7 patients. Postoperative complications included biochemical leak (n=3), Pancreatic Fistula (Class B, n=1), delayed gastric emptying (n=3), and no instances of haemorrhage. Median operative time was 580 minutes (540 mins – 780 mins), and median blood loss was 450 ml (380-800ml). The mean hospital stay was 8 days, with a median return-to-work duration of 3 weeks.



Conclusion

LPD using FAST LOIn technique exhibits promising short-term outcomes, notably reduced hospital stay and blood loss, albeit with a prolonged operative time.

Continued advancements and increasing experience with LPD with FAST LOIn technique are anticipated to further enhance overall procedural efficiency and patient outcomes.