

## Pancreaticoduodenectomy indications, intraoperative difficulties and early postoperative complications in limited resources, a prospective study in Yemen

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### Introduction

Pancreaticoduodenectomy (PD) or Whipple's procedure is highly complex surgical procedure in surgical oncology. In high volume centers with improvement of the surgical technique mortality rate has been reduced to be less than 5% while the morbidity remains high reaching up to 40%. However there is a limited data about PD in Yemen and all cases were operated by general surgeons. The aim of this study is to describe the PD different indications, the intraoperative difficulties and early postoperative complications in limited resources of Yemen

### Material and methods

This is a prospective descriptive study of 86 patients who underwent elective or emergency PD in Al-Thawra Modern General Hospital in Sana'a, Yemen, between January 2016 to August 2023. The patients were between 16 and 75 years, and they were followed up to 90 days. Eighty six patients were involved, 49 male and 37 female.

### Results

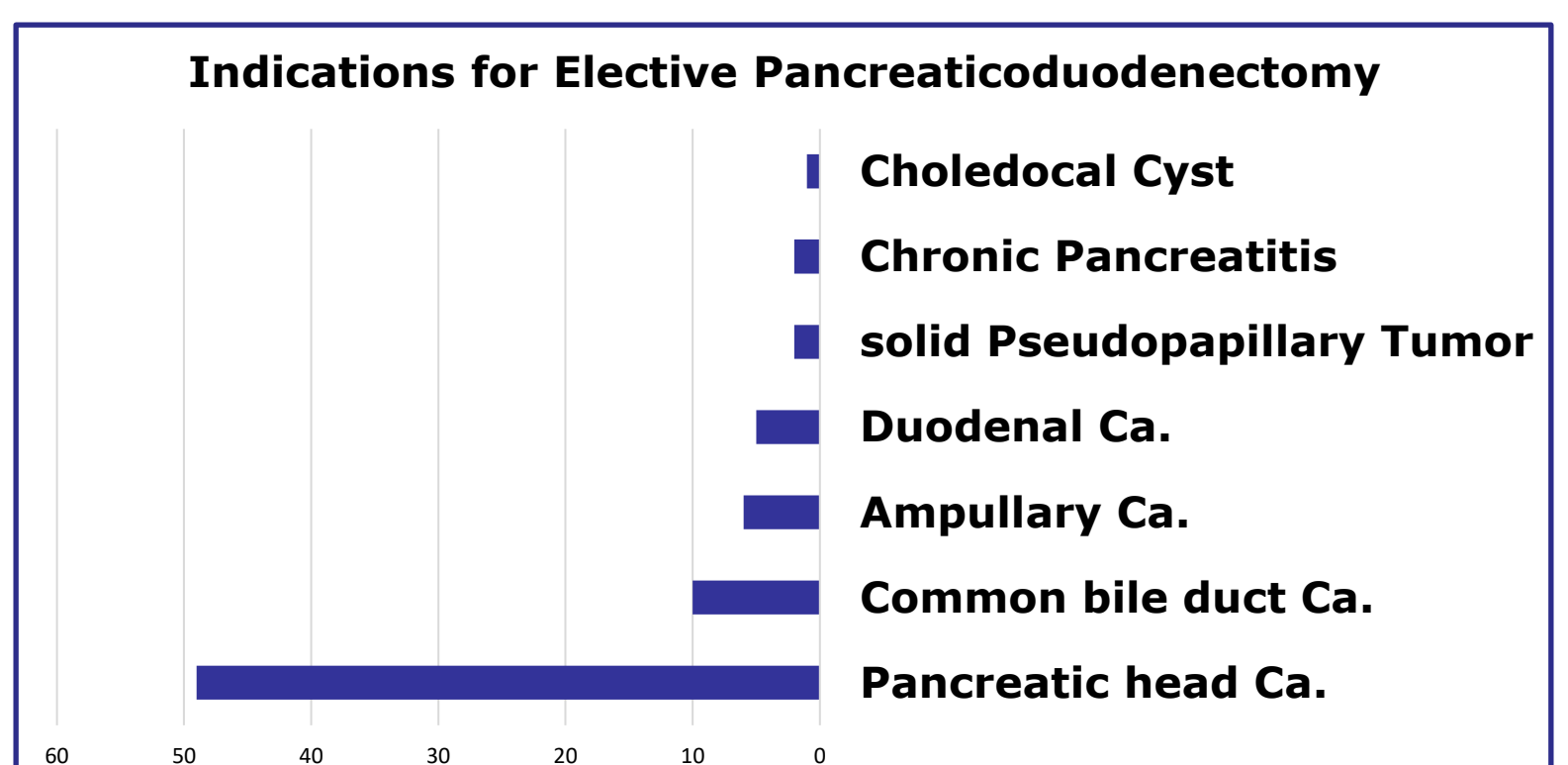
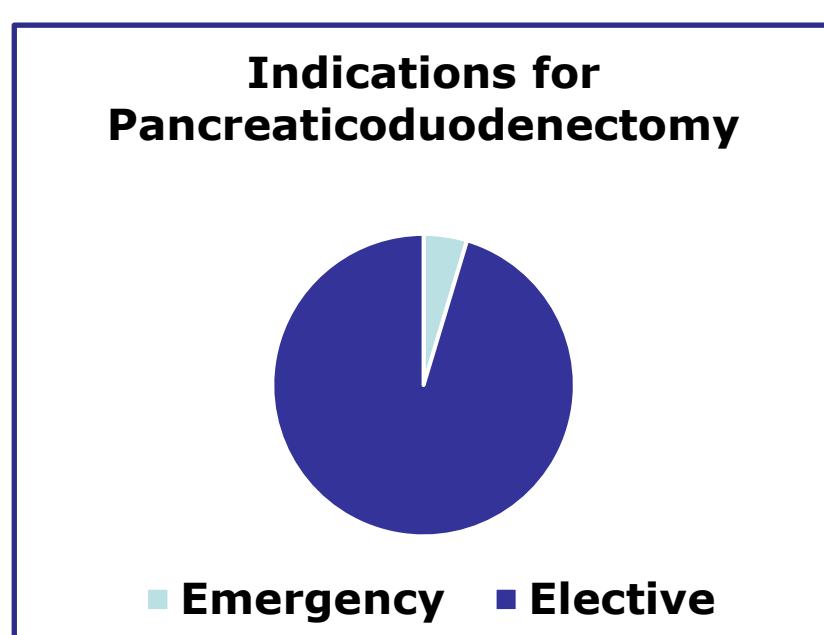
Four PD (5%) were emergency and 82 PD (95%) were elective mostly for tumors. Amongst these 49 PD (57%) for pancreatic head cancer, 11 PD (13%) for common bile duct cancer, 10 PD (12%) for ampullary cancer, 6 PD (7%) for duodenal cancer, 5 PD (6%) for pancreatic head solid pseudopapillary tumor, 2 PD (2%) for chronic pancreatitis and 1 PD (1%) for choledochal cyst.

The most common operative difficulties were seen the normal diameter of biliary tree in 15 PD (17%), aberrant right hepatic artery in 6 PD (7%) and operative field adhesion due to previous biliary surgery in 5 PD (6%).

Pancreatic reconstruction was pancreaticojejunostomy in 83 PD (97%) and pancreaticogastrostomy for the others. The most common postoperative complications were wound infection in 54 PD (63%), pancreatic fistula type B and C in 14% and 6% respectively, bile leak in 6 PD (7%) and delayed gastric emptying in 14 PD (16%), mortality rate in 8 PD (9%), half of them due to pancreatic fistula and the others due to cardiac problems. The overall post operative stay between 7 to 14 days.

### Discussion / Conclusion

PD in Yemen has wide variety of indications and it can be done with good overall result by experienced general surgeon in well facilitated hospital.



Intraoperative difficulties	No.
Normal biliary diameter	15
Aberrant Right Hepatic Artery	6
Previous Surgery Adhesions	5

Post operative complications	No.
Wound Infection	54
Pancreatic fistula Type B	10
Pancreatic fistula Type C	6
Bile leak	6
Delayed gastric emptying	14
Mortality	8