

BP PP 1-7**Prehabilitation versus standard care prior to
pancreaticoduodenectomy: a comparative study**

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Introduction : Pancreaticoduodenectomy is technically challenging with high risk of major morbidity. Morbidity is associated with patient comorbidities and reduced functional reserves. Prehabilitation aims to restore and enhance physiologic function with intent to reduce post-operative morbidity, and improve clinical outcomes. This study aims to compare the impact of an outpatient prehabilitation program (PP) in patients undergoing elective pancreaticoduodenectomy versus standard care (SC).

Methods : This is a prospective cohort study comparing patients who underwent PP versus SC prior to elective pancreaticoduodenectomy from Jan 2016 to Dec 2020. The PP includes dietician, physiotherapist, case manager and anaesthesia services. Outcomes evaluated include post-operative morbidity, length of stay and 30-day mortality.

Results : Fifty (68.5%) and 23 (31.5%) patients with median age of 65 years (interquartile range (IQR) 58-71) received PP and SC respectively. Sixty (82.2%), four (5.5%) and nine (12.3%) patients underwent open, laparoscopic surgery and laparoscopic surgery with open conversion respectively. Ductal adenocarcinoma was the most common histology (50.7%). Patient demographics were comparable between both groups. Length of stay (days) (PP: 12.5(IQR 9-17.3), SC: 10(IQR 8-16), $p=0.162$), overall morbidity (PP: $n=28/50(56\%)$; SC: $n=11/23(47.8\%)$, $p=0.516$), post-operative pancreatic fistula (PP: $n=12/50(24\%)$, SC: $n=3/23(13\%)$, $p=0.289$), intra-abdominal collection (PP: $n=11/50(22\%)$, SC: $6/23(26.1\%)$, $p=0.701$) and delayed gastric emptying (PP: $n=4/50(8\%)$, SC: $3/23(13\%)$, $p=0.501$) were similar. Overall 30-day readmission rate was 24.7% ($n=18$) and 30-day mortality was 1.4% ($n=1$).

Conclusions : Prehabilitation for patients undergoing pancreaticoduodenectomy did not improve post-operative outcomes, possibly due to selection bias. Exercise program compliance, functional capacity and quality of life should be assessed for future studies evaluating prehabilitation programs.

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