

Quality Of Pancreatic Surgery In Terms Of The Burden Of Complication Using The Accordion Severity Grading System And Postoperative Morbidity Index

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Background : Pancreatic surgery still has many complications, and it is very vulnerable to complications. The Postoperative Morbidity Index (PMI) is a quantitative measure of the average burden of complications (ACB) of a procedure. It is based on highly validated systems—American College of Surgeon National Surgery Quality Improvement Program (ACS-NSQIP) and the Modified Accordion Severity Grading System (MASGS).

Methods : Complications were collected prospectively and reviewed using the MASGS and the PMI. We compare complication including postoperative pancreatic fistula (POPF) after pancreaticoduodenectomy (PD) and left side pancreatectomy (LP) using ACB. This study included 152 consecutive patients underwent partial pancreatectomy from 2011 to 2020 in a small volume center. The ACB of POPFs was compared between PD and LP. Each complication was assigned a severity weight ranging from 0.11 for the least severe complication to 1.00 for postoperative death, and PMI was derived.

Results : 85 PDs and 67LPs were performed during study periods. ACS-NSQIP complications including POPF occurred in 37 cases (24.3%). The non-risk-adjusted PMI was 0.137 for all patients and 0.199 and 0.085 for PD and LP. Grade 3 complications were predominant in frequency (20/37,54%), and the most common complication was POPF. Severe complications (grades 4/5/6) accounted for only about 10.8% of complications but for more than 54.7% of the burden of complications. The average burden in cases in which a complication actually occurred was 0.563. The incidence of POPFs were not different PD and LP (9.4% vs 8.9%) However, the incidence of any complication was greater after PD (29.4% vs 17.9%, p=0.035). POPFs accounted for 40.3% and 30.4% of the complication burden after PD and LP.

Conclusions : Pancreatic surgery is associated with significant morbidity and burden in our institution which is greater than American high volume centers. Although POPFs occur less frequently after pancreatectomy, they are associated with a greater burden of complication. The method quantifies the burden of types and grades of postoperative complications and should prove useful in identifying areas that require quality improvement.

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