

## COMPARISON OF MINIMALLY INVASIVE AND OPEN PANCREATODUODENECTOMY IN PATIENTS WITH AMPULLA OF VATER CANCER: A PROPENSITY-SCORE MATCHED ANALYSIS

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**Background** : Pancreatoduodenectomy (PD) is the standard treatment for ampulla of Vater (AoV) cancer, but the optimal surgical approach remains debated. Minimally invasive pancreaticoduodenectomy (MIPD) has been proposed as a less invasive alternative to open pancreaticoduodenectomy (OPD), with potential perioperative benefits and comparable oncologic efficacy. However, direct comparisons of short- and long-term outcomes between the two approaches are limited. This study aimed to evaluate the efficacy and safety of MIPD compared to OPD using propensity score-matched analysis.

**Methods** : We retrospectively analyzed 260 patients with AoV cancer who underwent PD (89 MIPD and 171 OPD). Short-term outcomes, including operative time, blood loss, major complications, and length of hospital stay, as well as long-term outcomes such as overall survival (OS) and recurrence-free survival (RFS), were analyzed. Propensity score matching (PSM) was employed to minimize baseline differences.

**Results** : Before PSM, MIPD was associated with longer operative time ( $p<0.001$ ), less blood loss ( $p<0.001$ ), and shorter hospital stay ( $p<0.001$ ) compared to OPD, with similar major complication rates ( $p=0.881$ ). Oncologic outcomes showed no significant differences in OS ( $p=0.865$ ) or RFS ( $p=0.088$ ). After PSM, perioperative benefits of MIPD persisted, with reduced blood loss ( $p<0.001$ ) and shorter hospital stay ( $p=0.034$ ). Major complication rates remained similar ( $p=0.552$ ). OS ( $p=0.932$ ) and RFS ( $p=0.100$ ) were also comparable between groups.

**Conclusions** : MIPD is a viable alternative to OPD for AoV cancer, offering similar long-term outcomes and perioperative benefits. These findings emphasize the importance of patient selection and further research into optimizing surgical and adjuvant strategies.

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