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Experiences with robotic pancreaticoduodenectomy in malignancy and oncological outcome

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Lecture : Background: This study is to clarify the feasibility of robotic pancreaticoduodenectomy (RPD) in terms of surgical risks, clinically relevant postoperative pancreatic fistula (CR-POPF), and oncological outcomes compared to open pancreaticoduodenectomy (OPD) by using propensity score matching. Traditional OPD and RPD have been compared only in small, retrospective, and non-randomized cohort studies with variable quality.
Methods: Prospectively collected data for PD were evaluated. Comparison between RPD and OPD was carried out after propensity score-matching.
Results: There were 117 RPD and 128 OPD cases during the study period. After propensity score matching, 87 cases were included for comparison in each cohort. Longer operation time, less blood loss, more lymph node harvested, and less gastric atonia were noted in the RPD cases. There was no significant difference regarding the overall postoperative complications by Clavien-Dindo classification, postpancreatectomy hemorrhage, wound infection rate, and postoperative hospital stay. CR-POPF was not significantly different between RPD and OPD regardless of the Callery risk factor, with overall CR-POPF of 8.0% by RPD and 12.6% by OPD after propensity score matching. The survival outcome for overall periampullary malignancy was significantly better in the RPD group. However, there was no survival difference between RPD and OPD when the comparison was specifically performed for each primary periampullary malignancy.
Conclusion: RPD is associated with less blood loss, less gastric atonia, and more lymph node yield. Propensity scored-matched analysis revealed that RPD is not inferior to OPD in terms of CR-POPF, surgical risks, and survival outcomes.
In this presentation, I would like to share with you some short video clips in robotic PD.

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