16<sup>th</sup> SINGLE TOPIC SYMPOSIUM

> The art of collaboration for HBP cancer treatment

E06

## Perioperative and oncologic outcomes of minimally-invasive pancreatoduodenectomy comparing the surgical methods: Robotassisted vs. Totally laparoscopic

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**Background** : Minimally-invasive pancreatoduodenectomy (MIPD) such as totally-laparoscopic PD (TLPD) or robot-assisted PD (RAPD) has been increasingly performed for periampullary tumors. This study aimed to compare the perioperative outcomes among TLPD, RAPD and open pancreatoduodenectomy (OPD), and compare the oncologic outcomes between MIPD and OPD in malignant disease.

**Methods** : This was a retrospective study in same medical college (two hospitals) which had similar oncological surgical principles including extent of resection. One hospital performed RAPD and the other performed TLPD. Patients' demographics, perioperative outcomes, and oncologic results were analyzed. Propensity score matching (PSM) analysis was performed to compare the oncologic outcomes between MIPD and OPD.

**Results** : Between 2015 and 2020, 332 RAPD and 178 TLPD were performed in each hospital, respectively. Complication rate of Clavian-Dindo grade  $\geq$  3 (19.3% vs. 20.2%, P=0.816), clinically-relevant postoperative pancreatic fistula rate (9.9% vs. 11.8%, P=0.647), and open conversion rate (6.6% vs. 10.5%, P=0.163) were comparable between RAPD and TLPD. Mean operation time was shorter (341 vs. 414 min, P<0.001), and postoperative hospital stay was less in RAPD (11 vs. 14 days, P=0.034). After PSM, 5-year OS rate was comparable between MIPD and OPD in overall malignant disease (58.4% vs. 55.5%, P=0.182). According to malignant disease, 5-year overall survival (OS) rate was comparable between RAPD and TLPD (59.2% vs. 58.4%, P=0.868).

**Conclusions** : Both RAPD and TLPD is safe and feasible, and MIPD has comparable clinical outcomes compared with OPD. Although RAPD showed some advantages such as reduced operation times mainly during anastomosis and shorter hospital stays, perioperative outcomes seems to be similar. Surgeons can select the proper surgical methods according to the convenience of surgical movements as well as medical costs and operator's experiences.

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