

BP OP 2-1**Multi-center comparative study between totally laparoscopic and robotic pancreaticoduodenectomy: Propensity score and learning curve matching analysis**Hyeyeon KIM¹, Jae Hoon LEE¹, Chang Moo KANG², Sung Hoon CHOI³¹Division of Hepato-Biliary and Pancreatic Surgery, Department of Surgery, Asan Medical Center, Korea²Division of HBP surgery, Department of Surgery, Yonsei University College of Medicine Pancreatobiliary Cancer Center, Severance Hospital, Korea³Division of Hepatobiliary and Pancreas, Department of Surgery, CHA Bundang Medical Center, CHA university, Korea**Introduction** : Minimally invasive surgery has been adopted in pancreaticoduodenectomy(PD) recently, though there have been few reports comparing totally robotic PD(TRPD) to totally laparoscopic PD(TLPD).**Methods** : Retrospective multi-center analysis was performed regarding TLPD and TRPD from the initial case of each three surgeons to June 2020. Perioperative outcomes were analyzed using propensity score matching(PSM). Additional PSM analysis was done after excluding cases before reaching learning curve maturity to minimize technical biases.**Results** : A total of 362 cases were included(TLPD 282 and TRPD 80). Mean age was 61.7±11.9years, younger in TRPD(56.4±9.9 vs. 63.2±12.1, p<0.001). Malignancy rate reported 72.5% in TRPD, and 85.5% in TLPD(p=0.011). There was one case of mortality.

Operative time was shorter in TRPD(409.1±77.4 vs. 455.3±75.1min, p<0.001). Postoperative hospital stay was also shorter in TRPD(11.7±6.3 vs. 17.1±11.7days, p<0.001). Conversion rate was 10.3% in TLPD, while no conversion in TRPD(p<0.001). There were no significant differences in major complications(Clavien-Dindo≥III) or clinically-relevant postoperative pancreatic fistula(CR-POPF). R0 resection rate was 94.9% in TRPD, and 92.8% in TLPD. The number of retrieved lymph nodes showed higher in TRPD(17.1±7.9 vs. 12.6±8.7, p<0.001).

After PSM, operative time(411.6±75.4 vs. 452.6±76.8, p=0.001) and hospital stay(11.9±6.5 vs. 14.6±7.8, p=0.027) reported shorter in TRPD. Major complications and CR-POPF showed no significant differences. Likewise, after excluding immature cases, additional PSM analysis showed similar results for operative time, hospital stay and complications including CR-POPF.

Conclusions : Both TRPD and TLPD are safe and feasible approaches showing comparative complications. TRPD showed shorter operative time and hospital stay, though there were no differences in major complications or CR-POPF.Corresponding Author. : **Jae Hoon LEE** (hbpsurgeon@gmail.com)