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INSTITUTIONAL EXPERIENCE AND CLINICAL OUTCOMES OF ROBOTIC MAJOR HEPATECTOMY FOR LIVER TUMORS

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Introduction : The majority of published literature has only reported outcomes of robotic minor non-anatomical hepatectomy. We aim to examine our clinical outcomes, safety, and feasibility with robotic major hepatectomy.

Methods : We prospectively followed 235 patients who underwent robotic hepatectomy since 2016. Major hepatectomy is defined as a resection of ≥ 3 segments. Data are presented as median(mean \pm SD).

Results : Of the 235 patients, 142 of the patients underwent a major hepatectomy. Median age was 63(61 \pm 14.0) years, 51% were women, BMI was 28(29 \pm 6.1) kg/m² and ASA Class was 3(3 \pm 0.5). 25% of operations were for metastatic colorectal cancer, 23% for hepatocellular carcinoma, 11% cholangiocarcinoma, and 6% for gallbladder adenocarcinoma. Regarding the type of resection, 15 patients (11%) had central hepatectomy, 30 (21%) had formal right, 41 (29%) had formal left, 31 (22%) had non-anatomical right, 11 (8%) had non-anatomical left, 7 (5%) had extended right, and 7 (5%) had extended left. Prep time (in the room until incision) 64(74 \pm 67.3) minutes, Extraction time (incision until specimen extraction) 138(159 \pm 99.3) minutes, Console time 198(213 \pm 119.8) minutes, Closure time (extraction until dressing placement) 106(214 \pm 271.3) minutes, Operative duration was 288(305 \pm 119.0) minutes and time under anesthesia 359(369 \pm 115.6) minutes. Estimated blood loss was 200(258 \pm 252.1) mL and length of stay was 4(5 \pm 2.7) days. 9 patients experienced postoperative complications (4 ileus, 1 pneumonia, 1 bile leak, 1 gram-negative bacteremia, 1 jaundice, 1 pneumothorax). 22 patients were readmitted within 30 days with one death after readmission, due to aspiration.

Conclusions : Application of the robotic platform to major hepatectomy is safe and feasible with excellent perioperative outcomes.

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