

EARLY EXPERIENCE WITH ROBOTIC SINGLE-PORT LIVER RESECTIONS USING THE DA VINCI SP SYSTEM IN A SMALL CENTER

EUN JEONG JANG¹, KWAN WOO KIM¹

¹ Hepatobiliary Surgery, Dong-A University Hospital, Republic of Korea

Background : Robotic surgical systems have significantly advanced minimally invasive surgery by providing enhanced precision, dexterity, and visualization. Among these, robotic single-port systems offer a notable improvement, allowing complex procedures through a single incision. However, their adoption remains limited due to procedural complexity, especially in smaller centers with constrained resources. Hepatectomy, a demanding procedure requiring careful dissection and hemostasis, presents unique challenges for robotic single-port systems due to the absence of integrated energy devices. This study aims to assess the early experience with the da Vinci SP system for liver resection in a small center, focusing on clinical outcomes and operative efficiency.

Methods : From May 2024, five robotic single-port liver resections were performed at Dong-A University Hospital. These included three monosegmentectomies (Segments 1, 4, and 6), one lateral sectionectomy, and one left hepatectomy, conducted for various liver diseases. All procedures utilized the da Vinci SP system.

Results : Due to the variety of procedures, statistical analysis was not meaningful. The operative times are approximately 2-3 hours (S1: 180, S4: 180, S6: 135, Lateral: 140, Left: 170 minutes). All patients were discharged without complications within 5 to 8 days postoperatively and are currently under follow-up.

Conclusions : Our early experience suggests that robotic single-port liver resections is feasible and safe in a small center setting. Despite the challenge of lacking integrated energy devices, the procedures showed acceptable operative times and favorable postoperative outcomes. Further studies with larger case series are needed to validate these results and refine technology for broader implementation in hepatobiliary surgery.

Corresponding Author : KWAN WOO KIM (d002045@naver.com)