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1ST CASE OF ROBOTIC LIVER RESECTION AND LYMPH NODE DISSECTION USING THE REVO-I SYSTEM IN KOREA

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Background : Robotic surgery has become a cornerstone of minimally invasive procedures, with the Da Vinci surgical system being the most widely utilized platform worldwide. In response to the growing demand for innovative and cost-effective alternatives, the REVO-I surgical system was developed in South Korea. While REVO-I has been applied successfully in various surgical fields, it has not yet been reported for liver resection and lymph node dissection. Here, we present the first case utilizing REVO-I for this purpose, highlighting its feasibility and potential in hepatic and oncologic surgeries.

Methods : The patient, with a history of HBV hepatitis, was diagnosed with locally advanced intrahepatic cholangiocarcinoma during a routine health screening. After receiving seven cycles of neoadjuvant chemotherapy consisting of durvalumab, gemcitabine, and cisplatin, the patient showed a partial response. On January 22, 2025, robot-assisted left lateral sectionectomy and lymph node dissection were performed using the REVO-I robotic system.

Results : The procedure utilized four robotic ports and one assisted port. After performing a cholecystectomy, lymph node dissection (LN #8, #12, and #9) was carried out. This was followed by left lateral sectionectomy. Liver parenchymal dissection was completed using robotic instruments, and the Glissonian pedicle was divided with two endoscopic linear staplers. The console time was 2 hours and 24 minutes, and the estimated blood loss was less than 10 cc.

Conclusions : The surgery was completed uneventfully, and the patient was transferred to the general ward without complications. This case suggests that the REVO-I robotic system could be a feasible option for liver surgery.

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