



PO-008

## Development And Validation Of A Difficulty Scoring System For Laparoscopic Liver Resection To Treat Hepatolithiasis

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**Background** : A difficulty scoring system was previously developed to assess the difficulty of laparoscopic liver resection (LLR) for liver tumors; however, we need another system for hepatolithiasis. Therefore, we developed a novel difficulty scoring system (nDSS) and validated its use for predicting postoperative outcomes.

**Methods** : This was a retrospective study. We used clinical data of 123 patients who underwent LLR for hepatolithiasis between 2003 and 2021. We analyzed the data to determine which indices were associated with operation time or estimated blood loss (EBL) to measure the surgical difficulty. We validated the nDSS in terms of its ability to predict postoperative outcomes, namely red blood cell (RBC) transfusion, postoperative hospital stay (POHS), and major complications defined as grade  $\geq$  IIIa according to the Clavien–Dindo classification (CDC).

**Results** : The nDSS included five significant indices (range: 5–17; median: 8). The RBC transfusion rate ( $p < 0.001$ ), POHS ( $p = 0.002$ ), and major complication rate ( $p = 0.002$ ) increased with increasing nDSS score. We compared the two groups of patients divided by the median nDSS (low: 5–7; high: 8–17). The operation time (210.7 vs. 240.7 min;  $p < 0.001$ ), EBL (281.9 vs. 702.6 mL;  $p < 0.001$ ), RBC transfusion rate (5.3% vs. 37.9%;  $p < 0.001$ ), POHS (8.0 vs. 13.3 days;  $p = 0.001$ ), and major complication rate (8.8% vs. 25.8%;  $p = 0.014$ ) were greater in the high group.

**Conclusions** : The nDSS can predict the surgical difficulty and outcomes of LLR for hepatolithiasis and may help select candidates for the procedure and surgical approach.

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