

Abstract

Background and study aims

Endoscopic treatment outcomes for hepatolithiasis in patients with altered anatomy is not well known. The aim of this study was to evaluate the treatment outcomes of hepatolithiasis in patients with hepaticojejunostomy (HJ) using short-type double-balloon endoscopy (sDBE) and to assess the risk factors for stone recurrence.

Patients and methods

This was a retrospective cohort study that consisted of 73 patients with hepatolithiasis who underwent bowel reconstruction with HJ at an academic center. Stone removal was performed using sDBE. After balloon-occluded cholangiography using sDBE, peroral direct cholangioscopy (PDCS) using ultraslim endoscopy was performed to check for residual stones, depending on the bowel reconstruction method. Recurrence was defined as the development of cholangitis from stones.

Results

The success rate of reaching the HJ site was 92% (67/73), and the complete stone removal rate was 93% (62/67) with multiple sessions (mean number 1.5 ± 0.9). The occurrence rate of procedure-related adverse events was 6.8%. Among 58 patients evaluated for stone recurrence, 13 (22%) developed recurrence during a median follow-up period of 2.7 years (interquartile range: 1.5-4.8). Multivariate analyses determined that a stone diameter ≥ 8 mm

(odds ratio [OR], 5.57; 95% confidence interval [CI], 1.39-37.2; $P = 0.013$) and performing PDCS (OR, 0.16; 95% CI, 0.0084-0.90; $P = 0.036$) were significant factors for stone recurrence.

Conclusions

Endoscopic treatment using sDBE for hepatolithiasis was effective and safe. PDCS might reduce the rate of stone recurrence by detecting stones that are too small to confirm on fluoroscopic images.

Key words: Peroral direct cholangioscopy, Hepatolithiasis, Altered gastrointestinal anatomy, double-balloon endoscopy