

Conclusion: Laparoscopic liver resection presented better perioperative outcomes, mainly shorter hospital stay and lower morbidity. Experience with the laparoscopic technique should be encouraged in specialized centers.

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SEVERE POSTOPERATIVE MORBIDITY RELATED TO MAJOR HEPATECTOMIES PERFORMED FOR LIVER BENIGN TUMOR: A BI-CENTRIC RETROSPECTIVE STUDY

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Introduction: Liver benign tumors (LBT) are rare lesions that may be managed by surgical resections. The present study reports on major hepatectomies performed for LBT with a special focus on severe postoperative morbidity.

Methods: Patients who underwent major hepatectomies for LBT were included retrospectively from two HPB expert centers in a cross-sectional study.

The primary endpoint was the 90 postoperative days (90-POD) severe morbidity (Clavien grade $\geq$ III).

Results: From 1999 to 2016, among 277 liver resections, 71 patients underwent major hepatectomy performed for LBT. Patients were mostly young (44 ± 15 years) females (75%; n=53).

Right (83%; n=59) and left (17%; n=12) hepatectomies were performed for unique (73%; n=52) or multiple (27%; n=19) LBT. Tumor mean size was 100 ± 60 mm. Intraoperative injuries occurred in 17% (n=12) mainly represented by hepatic veins or vena cava injuries (6%; n=4).

90-POD mortality was 1.4%, one patient died from acute liver failure without access to liver transplantation.

Overall 90-POD medical or surgical complications occurred in 58% (n=41). Surgical complications occurred in 23% (n=16), while medical complications occurred in 51% (n=36) of the patients.

Severe 90-POD medical or surgical complications happened in 18% (n=13) of the patients. Medical complications (11%; n=8) were significantly higher than surgical complications (9%; n=6) ($p=0.05$). One patient needed an emergency liver transplant for acute liver failure.

In multivariate analysis, intraoperative injury was an independent risk factor of severe postoperative complications.

Conclusion: Major hepatectomies for LBT are rare procedures leading to significant postoperative complications. The over-risk of non-surgical life-threatening complications should not be ignored in the surgical decision.

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HISTOLOGICAL SEVERITY OF LIVER CIRRHOSIS: AN IGNORED KEY PLAYER IN THE SURGICAL TREATMENT OF HEPATOCELLULAR CARCINOMA

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Background: Hepatocellular carcinoma (HCC) is frequently associated with varying degrees of liver cirrhosis. This study investigated how the histological cirrhotic severity affects the surgical outcomes of HCC patients after curative liver resection (LR).

Methods: A series of 1524 patients with HCC who received curative LR between 1999 and 2015 was reviewed retrospectively. Liver cirrhosis was histologically staged as mild, moderate, or severe based on the Laennec grading system. Surgical outcomes between the groups was compared.

Results: Mild, moderate, and severe cirrhosis were identified in 575 (37.7%), 597 (39.2%), and 132 (8.7%) patients, respectively, and 220 (14.4%) patients were non-cirrhotic. The patients in the severe cirrhosis group exhibited significantly higher morbidity and mortality rates than those with mild, moderate or non-cirrhosis. The 5-year recurrence-free survival (RFS) and overall survival (OS) rates were 36.8% and 64.5% in the non-cirrhotic group; 34.8% and 60.4% in the mild cirrhosis group; 17.3% and 43.4% in the moderate cirrhosis group; and 6.1% and 24.1% in the severe cirrhosis group, respectively. RFS and OS rates did not differ significantly between the non-cirrhotic group and the mild cirrhosis group; however, long-term survival was significantly worse as cirrhotic severity increased. Based on multivariate analysis, moderate and severe cirrhosis were independent risk factors for decreased RFS and OS.

Conclusions: More histologically severe cirrhosis significantly worsens the short-term and long-term outcomes of HCC patients who receive LR. Evaluating the histological cirrhotic severity should be emphasized as an important novel parameter for determining the safety and efficacy of LR to treat HCC.

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SMALL FOR SIZE SYNDROME (SFSS) AND HYPOXIA: LESSONS LEARNED FROM THE ASSOCIATED LIVER PARTITION AND PORTAL VEIN LIGATION FOR STAGED HEPATECTOMY (ALPPS) PROCEDURE IN RATS

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Excessive portal hypertension with compensatory arterial constriction of the future liver remnant (FLR) is considered the main cause of SFSS after major hepatectomy. ALPPS combines portal vein ligation and parenchymal transection to obtain rapid hypertrophy of FLR for patients needing marginal hepatectomy, with high risk of postoperative SFSS. This procedure sets the FLR in the same hemodynamic portal conditions as in SFSS, and yet, patients survive, and obtain boosted FLR hypertrophy.

This study analyzes the role of hepatic hemodynamics in liver regeneration and differences between SFSS and ALPPS.