

GOOD TO KNOW: The ALPPS Procedure - Embracing a New Technique

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Abstract

Background: Hepatic resection is the only potentially curative treatment for primary liver tumors and hepatic metastases. The most frightening postoperative complication of extensive hepatectomies is liver failure due to insufficient future liver remnant (FLR). The ALPPS technique (Associating Liver Partition and Portal vein Ligation for Staged hepatectomy) effectively increased the resectability of otherwise inoperable liver tumors (primary or secondary malignant liver tumor) by achieving a rapid and an effective hypertrophy of the FLR, which lowers postoperative liver failure risk.

Aim: To present the ALPPS classic right trisectionectomy and its technical variants which were invented to decrease the high rate of post-operative morbidity and mortality, reported in early case series.

Technique: ALPPS involves two stages. The first surgical procedure consists in the ligation of the right portal branch and the partition of the liver at the site of the falciform ligament (insitu splitting). In contrast to a classical hepatectomy, the tumoral hemiliver is left in situ and remains vascularized by the right hepatic artery only. The biliary and systemic venous drainages represented by the right biliary duct and respectively the hepatic veins, are preserved. The second step of the procedure is usually performed within 7 to 15 days after the firststage. The tumoral hemiliver is removed by sectioning the right hepatic artery, the biliary duct and the systemic venous pedicle.

Conclusions: The ALPPS technique is a therapeutic method for inoperable liver tumors by standard methods of hepatectomy ± portal vein ligation (PVL). By careful patient selection and technical adjustment to the particular conditions of each case, better outcomes have been achieved, leading to an increasing number of surgeons who perform ALPPS.

Key words: ALPPS, colorectal liver metastases, portal vein ligation, liver surgery, unresectable liver tumors