

Latest update in liver surgery.

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Liver Surgery

One of the most common treatment options for liver cancer is liver resection. The mortality and morbidity of liver surgery have decreased dramatically as selection criteria, surgical methods, and perioperative treatment have improved. As a result, safe liver resection has become more widely offered across the world. We identified four contemporary liver resection themes (anatomical liver resection, laparoscopic liver resection, staged liver resection, and chemotherapy induced liver damage). When planning a liver resection, the balance between therapy effect and patient safety must be examined. Because of the efforts of numerous surgeons, progress in this area has been rapid, and outcomes have improved dramatically as a consequence. These issues remain unresolved, and more solid proof is required. With continued growth of each issue, precise selection of the appropriate approach and risk assessment should be standardised. The current article examines these four topical themes in recent series, with an emphasis on safety and efficacy.

Anatomical Liver Resection (AR) is thought to lower the incidence of intrahepatic metastases and recurrences caused by tumour cell invasion in surrounding portal veins. Some studies have found that AR is more effective than Non-anatomical Liver Resection (NAR), whereas other studies have found the opposite. As a result, the question of which patients are most efficiently treated with AR remains debatable.

Laparoscopic liver resection became popular in the 1990s and is currently widely used. Initially, this surgery was deemed controversial, but ongoing advancements in the operation, procedures, and surrounding materials such as energy devices, forceps, and scopes have been created. As a result, laparoscopic liver resection has become one of the standard alternatives for hepatic cancers, demonstrating advantages in the operation fields and degree of invasiveness. When compared to open liver resection, laparoscopic liver resection has proven superiority in terms of lesser intraoperative blood loss, shorter time of hospital stay, and the same overall and disease free survival. However, the underlying diseases are diverse, and prior studies had limited sample sizes and varying complication rates. The results of the first Randomised Controlled Trial (RCT) and other large cohort studies have just become public. As a result, there is now more solid data to support the use of laparoscopic liver resection as a conventional therapy.

Patients with Colorectal Liver Metastases (CRM) have shown significant gains in long term survival during the previous two decades, mainly to developments in chemotherapy and surgical procedures. However, the use of a number of cytotoxic drugs has been linked to particular liver damage. To gain maximum oncological benefit while minimising CRM unwanted effects, a fuller knowledge of the mechanisms of action and side effects of

common medicines is required.

Associating liver partition and portal vein ligation for staged hepatectomy (ALPPS) is a revolutionary treatment for increasing remaining liver volume in order to do longer right liver resections such as right trisegmentectomy. According to the worldwide ALPPS registry, however, more than 15% of ALPPS were performed on patients who had no indications for two stage hepatectomy. They warned against overusing ALPPS and stated that the indicators should be carefully assessed. As a result, the indications for ALPPS should be reassessed in order to strike a balance between safety and efficacy. A modified method is now available to address the substantial morbidity associated with ALPPS.

AR was first proposed in the 1930s as a right or left hepatectomy. Makuuchi then published an ultrasonically anatomical subsegmentectomy for Hepatocellular Carcinoma (HCC) in 1985, in which every Couinaud's segment may be entirely excised. The AR group had a higher 5-year survival rate (35%) than the enucleation group (66%, P 0.05). As a result, AR was thought to be theoretically beneficial in preventing intrahepatic metastasis of cancer cells via the portal vein, with a predilection for eliminating portal venous tumour expansion in HCC. AR, on the other hand, necessitates the sacrifice of a considerable quantity of liver parenchyma to ensure the elimination of possible vascular invasion and tumour propagation via the portal vein. AR has been regarded by some writers as being too complicated and providing little benefit to survival. Most earlier research found no clear proof of AR's advantage, and several meta-analyses found contradictory results.

The current series is a look back at AR from 2001 to 2015. We found 18 studies on the surgical treatment of single 5 cm diameter lesions. The majority of these publications (13 research) were retrospective, including four matched cohorts and one Japanese national survey. Each research had a sufficient number of participants. Morbidity rates for AR varied from 8% to 46%, whereas NAR morbidity rates ranged from 4.8 to 42%. There was no discernible difference in morbidity between the two methods. Simultaneously, mortality related with liver resection has decreased considerably over the previous two decades, showing that meaningful distinctions between surgeries may not exist.

The survival advantage of AR is still debatable. In retrospective research, anatomical resection has been shown to improve 5-year overall survival. However, a large cohort in a Japanese national survey found that AR did not outperform NAR in terms of overall survival or disease-free survival. AR was revealed to be superior in subgroup analysis only for tumours with diameters between 2 cm and 5 cm. Some demographics (lack of vascular invasion, tumour diameter >2.0 cm, degree

of differentiation) were related with higher 5-year overall survival after AR, according to matched cohort studies. A meta-analysis of both 5 year disease-free survival and 5 year overall survival showed that AR performed considerably better than NAR. This finding makes sense given that HCCs less than 2 cm are often adequately treated with alternative methods such

as radiofrequency ablation. The increased incidence of vascular invasion in tumours bigger than 5 cm may limit the local therapy effects of AR. As a result, AR appears to have minimal benefits on survival in all patients. Further clinical research, such as large RCTs, are needed to determine which categories are suited for AR.

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