

# Large Hepatocellular Cancers Require Hepatic Resection

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## Abstract

Microbes are the foundation of our existence. Long thought to be a nuisance and carriers of numerous diseases, new study suggests that they play a role in processes that are advantageous to human survival and provide long-term disease protection. The large range of functions displayed by a variety of microorganisms implies diversity and heterogeneity at the molecular level, emphasising the need to dig deeper into the molecular underpinnings that determine different results. Hepatocellular carcinoma (HCC) is a type of cancer that affects the liver.

**Keywords:** Hepatocellular cancers • Drugs • Disease protection

## Introduction

It is one of the most common cancers in the world. From 1.4 per 100 000 in 1980 to 2.4 per 100 000 in 1991–1995, the rate of HCC occurrence increased. There is an aetiological link between hepatitis B virus (HBV) infection and the development of HCC and HBV-infected people have a 200-fold higher chance of developing HCC than non-infected people. With incidence rates of 7% at 5 years and 14% at 10 years, the hepatitis C virus is proven to be an important predisposing factor for this malignancy [1]. The prognosis is determined by the stage of the tumour and the degree of liver function, both of which influence the tolerance to invasive treatments. Despite recent advancements in diagnostic imaging, HCC typically manifests at an advanced stage due to a lack of early symptoms and poor screening.

## Description

Over the last ten years, the adoption of traditional Milan criteria (single HCC of 5 cm or up to three nodules of 3 cm) has led to more cautious patient selection, resulting in improved liver transplantation (LT) results in patients with HCC. The increased efficacy of LT in the treatment of HCC has sparked debate over whether the Milan criteria should be expanded. Over the last ten years, the application of traditional Milan criteria (single HCC of 5 cm or up to three nodules of 3 cm) has resulted in improved liver transplantation (LT) outcomes in patients with HCC. The increasing use of LT in the treatment of HCC, as well as its efficacy, has sparked debate about whether the Milan criteria should be expanded. The University of California San Francisco (UCSF) standards (one tumour nodule 6.5 cm, or three or fewer tumours, the greatest of which is 4.5 cm and the sum of the tumour diameters is 8 cm) represent a small extension of tumour size limits among the suggested enlarged criteria. The shortage of donors is the most significant disadvantage of LT [2,3]. Because the outcome on an intention-to-treat basis is endangered by disease progression, 20 percent of eligible candidates have dropped out as the waiting time has increased.

In patients with cirrhosis, liver resection is the preferred course of treatment for early hepatocellular carcinoma (HCC) and it is one of the main

curative options. To balance the risk of postoperative liver failure and the potential benefit on long-term outcomes, however, careful patient selection is necessary. The indications for liver resection have been expanded in recent years thanks to improved surgical methods, perioperative care and patient selection. In this review, we seek to describe the primary indications for liver resection in the management of HCC, its position in the therapeutic algorithm relative to percutaneous ablation and liver transplantation, as well as the most recent developments in liver surgery that may be used to enhance patient prognosis.

For individuals with early HCC and moderate to severe cirrhosis, liver transplantation is the treatment of choice. Patients with early HCC and retained liver function, on the other hand, appear to benefit from liver resection (LR). In cases of unfavourable histology results or early-stage recurrence of HCC, transplantation should be explored. Because there are no concrete guidelines for treating HCC patients who do not meet the Milan criteria, a more customised multimodal strategy involving LR, salvage LT and main LT should be considered. The goal of this retrospective study was to see how effective LR is in terms of long-term and disease-free survival in patients who met the UCSF criteria and those who didn't [4].

In patients who are ineligible for transplantation, single, small hepatocarcinomas (HCC) are still a reason to perform a partial liver resection. Oncological factors lead to the recommendation of anatomical resections. By using a minimally invasive technique like laparoscopy, the likelihood of developing ascites and liver failure should be reduced. The oncological effects of this strategy and its alleged advantages have not yet been proven. We assessed the short- and long-term effects of HCC liver resections performed laparoscopically.

For patients who are not cirrhotic, LR is currently the preferred course of action. A major hepatic resection performed in the absence of cirrhosis is associated with acceptable postoperative mortality and morbidity rates of less than 4% and 33%, respectively and a 5-year OS of 50%. However, depending on the presence of comorbidities and the existence of an underlying liver disease, these results may differ. A preoperative liver biopsy allows for the pathological assessment of inflammatory activity [5], the degree of liver fibrosis and the presence of steatosis. Accordingly, an accurate evaluation of the underlying liver parenchyma is still essential for diagnosis. In fact, in patients with viral-related chronic liver disease and steatosis, the risk of perioperative complications rises in the presence of active hepatitis. LR in this situation is a difficult problem because about one-third of cases of non-alcoholic fatty liver disease (NAFLD)-related HCC will develop without cirrhosis and because these patients have a higher risk of postoperative complications. One of the main characteristics of NAFLD, steatosis, is linked to impaired liver regeneration, which partially explains the higher incidence of liver failure following LR in this patient population [6,7].

## Conclusion

Furthermore, postoperative mortality and complications (sepsis,

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cardiovascular and pulmonary complications) after LR are twice as likely to occur when metabolic syndrome is present. 15, 16 Therefore, the absence of extensive fibrosis does not lower the patient's risk for surgery because the relationship between steatosis and chronic inflammation also affects the patient's ability to tolerate resection. 17 In order to improve the perioperative management of these patients, it seems crucial to identify patients without cirrhosis who are at a higher risk of postoperative complications as the prevalence of patients with NAFLD and metabolic syndrome rises. The best candidates among cirrhotic patients in Western nations were initially those with a single tumor, bilirubin less than 1 mg/dl and no portal hypertension (defined as a hepatic venous pressure gradient [HVPG] less than 10 mmHg or a platelet count greater than 100,000/l). In this situation, OS following LR was close to that observed after LT (5-year OS of 74% for LR and 69% for LT). The last decades saw an extension of tumour burden-related indications for LR that are related to tumour burden have expanded over the past few decades.

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## Conflict of interest

There are no conflicts of interest by author.

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