

# New surgical strategies from endoscopical resection to liver transplantation for hepatobiliopancreatic tumours

Hepatobiliary and pancreatic cancers are surgical branches that are increasingly developing minimally invasive and robotic surgery (1,2). Oncological therapeutic advances combined with more precise imaging allow a new surgical window to be opened for previously inoperable patients. This series aims to update the reader on the surgical management of hepatobiliopancreatic tumours.

With regard to the least common tumour of the ampulla of Vater, Taliente and colleagues analysed the role of endoscopic resection in tumours at an early stage (3).

Preoperative diagnosis between malignant and benign disease can be difficult. Therefore, the role of endoscopic resection is still limited to rare cases. Nevertheless, in the case of an ampulloma, endoscopic resection seems to be superior to surgical ampullectomy performed trans-duodenum. On the other hand, in the case of suspected or clear presence of malignant cells, radical duodenopancreatectomy remains the gold standard.

Intrahepatic cholangiocarcinoma is second only to hepatocellular carcinoma as a liver cancer. Melandro *et al.* (4) reviewed the recent outcomes of surgery and explored the treatment procedures that may improve the prognosis. From the role of anatomical or non-anatomical resection, the role of lymphadenectomy to the latest minimally invasive approach. The safety of laparoscopic lymphadenectomy has recently been described as the role of the laparoscopic and robotic approach with very promising results (5-7). To complement their review, the role of neoadjuvant chemotherapy and the possibility of redo surgery has been developed.

Del Basso *et al.* presented a review of the surgical treatment in patients with non-colorectal non-neuroendocrine liver metastasis (NCNN-LM) (8). The review is divided into two parts according to the primary tumour: digestive or non-digestive. Of these, two NCNN-LM are gaining a place in the current surgical option. Pancreatic and breast metastases are more often candidates for liver resection due to oncological progress. Breast cancer can develop metastases even 20 years after the primary tumour. As the supramesocolic space has often not been touched in these patients, a minimally invasive approach represents an optimal approach to achieve adequate disease clearance (9,10).

Synchronous oligometastasis is more common and even after neoadjuvant therapy, the indication for liver resection is still controversial. Nevertheless, some series have reported interesting results. In these cases, laparoscopic staging may be helpful to avoid unnecessary laparotomy (11). Conversely, for gastric tumours, single metachronous liver resection appears to be associated with a survival benefit. In appropriately selected patients, the minimally invasive approach appears to be an acceptable, if not preferred, surgical approach that maximises short-term outcomes and results in similar oncological outcomes to traditional open resection (12).

The review by Giovanardi and colleagues is a narrative review of the new surgical therapeutic option for hepatic epithelioid haemangioendothelioma (HEHE) (13).

The authors suggest the possibility of performing liver resection using a minimally invasive approach, such as laparoscopic or robotic, even in the case of recurrent disease. The possibility of needing a liver transplant may further justify the minimally invasive approach in these patients. In a recent national study, minimally invasive liver resection prior to liver transplantation was a protective factor for operative mortality after liver transplantation (14).

In conclusion, minimally invasive surgery is becoming increasingly useful for patients with hepatobiliary cancers. New chemotherapy regimens are improving overall survival for many cancers, and some new cases of oligometastatic disease are suitable for liver resection.

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