Surgery for liver metastases: How far should the surgeon go?

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There is now absolutely no doubt that liver resection both prolongs survival and offers the chance of cure for selected patients with colorectal liver metastases. However, considerable confusion persists among colorectal surgeons and oncologists with regard to which patients should be referred for consideration of liver resection (1). Indeed in a recent UK population based study there was a 700% variance between the worst and best referring hospitals for these patients!

Historically, only patients with up to 3, small, unilobar, metachronous metastases were considered appropriate for liver resection, and if such restrictions were accepted then less than 10% of patients with liver only disease would come to hepatectomy. As a result, barely 3% of all patients with stage 4 disease were alive 5 years after diagnosis. The current definition of resectability is metastatic disease in the liver (even in the presence of resectable extra-hepatic disease) which can be resected while preserving 25-30% of viable disease free liver with a vascular inflow and vasculo-biliary outflow. As such, more than 20% of these patients are now considered resectable at presentation. The only barrier to such surgery is now anaesthetic fitness to undergo the liver surgery (2).

Furthermore, more patients can now be brought physically to liver resection by using a number of techniques including:

- Portal vein embolisation to increase the size of the future remnant liver
- Two stage hepatectomy
- Combination of surgery with ablation (3)
- Employing techniques from liver transplantation

As such, a further 10% of patients become surgical candidates without recourse to the use of induction chemotherapy.

It has been clear for some time that there are patients with liver-limited but unresectable disease who can be converted to resectability following induction chemotherapy, either on intention to treat or following a dramatic response, even when thought initially not feasible (the ‘accidental’ hepatectomy). Combining cytotoxic chemotherapy with biologics (especially the EGF-receptor antibody *cetuximab* in patients whose tumours are *kras* wild-type) might now bring up to 40% of patients with unresectable liver-limited disease to liver surgery with potentially curative intent (4).

Using chemotherapy and biologics to bring patients to such surgery must only be employed within the setting of a highly specialised hepatobiliary multi-disciplinary team (5). Injudicious and excessive use of these agents leads to liver parenchymal damage, so causing increased morbidity and mortality after liver surgery, and also runs the risk of making the lesions morphologically disappear, so becoming undetectable at surgery, while remaining pathologically viable.

References:

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4. Folprecht G et al. Lancet Oncology 2010; 1: 38-47
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