



Liver Hanging Manoeuvre

Safi Dokmak

Beaujon Hospital, France

Originally developed by Belghiti et al¹⁾, the LHM is a technique that passes tape by blind dissection between the anterior surface of the vena cava and the liver. LHM has anatomical advantages by guiding the anatomical transaction plane while protecting the vena cava and the hepatic veins and by suspending the liver; it can decrease bleeding and create a more superficial surgical field. LHM had also oncological benefits²⁾ because liver resection can be performed with no previous mobilization of liver tumours, especially for large ones (anterior approach).

Although LHM can facilitate the surgery of presumed very difficult liver resections, however one of the major advantages of LHM is to facilitate and complete parenchymal transaction before division of vascular and biliary pedicles, otherwise very difficult to achieve in some patients. This surgical manoeuvre is very essential, like in case of hilar cancer when resection of the portal vein is done at the end (for safer resection-reconstruction) and in case of liver resection for living donor when division of vascular elements should be done finally in order to decrease the ischemia time.

Although originally described for right hepatectomy, many modifications^{3,4)} entitled “modified hanging manoeuvre”, had been described for almost all anatomical liver resections and including: Right-left hepatectomy, posterior sectionectomy, right-left trisectionectomy, central hepatectomy and isolated segment IV or segment I resections. By passing the tape along the ligamentum venosum, segment I can be resected (major right resections) or preserved (major left resections). For some resections, double LHM can be done, like for segment IV resection.

Tumoral or inflammatory invasion of the anterior aspect of the vena cava or hepatic veins are considered as relative contraindications to LHM. In this case a non-anatomical LHM (example: right side of the vena cava) can be done to facilitate liver resection. The presence of intra hepatic venous collateral circulation is also a relative contraindication to the anterior approach with LHM.

Although the use of this procedure is still debatable in open surgery, we feel that LHM and its variants are very important for the development of laparoscopic major resections in order to increase feasibility, safety and to decrease conversion⁵⁾.

References

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