Video Article

Comparative surgical resection of ligamentum teres hepatitis both in cadaveric model and ovarian cancer patient

Selçuk et al. Comparative resection of ligamentum teres hepatitis

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Abstract
Resection of all tumor implants with the aim of maximal cytoreduction is the main predictor of overall survival in ovarian carcinoma. However, there are high risk sites of tumor recurrence, and perihepatic region especially the point where ligamentum teres hepatitis enters the liver parenchyma under the hepatic bridge (pont hepatique) is one of them. This video demonstrates the resection of ligamentum teres hepatitis both in a cadaveric model and ovarian cancer patient. (J Turk Ger Gynecol Assoc 2019; 20: xxxx)

Keywords: Pont hepatique, umbilical ligament, liver, ovarian cancer, cytoreduction

Introduction
The falciorme ligament divides the liver into right and left lobes on the antero-superior part of portoumbilical fissure in which ligamentum teres hepatitis (umbilical ligament of liver/round ligament of liver) attaches to the visceral surface. Due to the distribution pattern of portal vein and hepatic veins, the liver is divided into eight functional segments(1). Between the liver segments III and IVb the umbilical fissure exists, and umbilical ligament lies there. The liver parenchyma over this structure varies in thickness, and in some patients the umbilical ligament will totally be in sight which lets a broad exposure until its entrance into the liver. Paul Sugarbaker defined this parenchyma surrounding the umbilical ligament as ‘Pont hepatique/hepatic bridge’ which creates a tunnel(2, 3).

Mucinous ovarian or gastrointestinal carcinoma, appendicilcar carcinoma, mesothelioma or a serous ovarian cancer will have a widely disseminated recurrence on the peritoneal surfaces. The complicated surgical anatomy of liver and perihepatic tissues will limit the easy detection of tumor implants, eventually a good exposure of the abdominal cavity is needed to excise all the visible tumor implants especially on high risk fields like the end part of ligamentum teres hepatitis under the hepatic bridge(4).

During cutting the hepatic bridge, there is no risk of injuring a structure. However, if the ligament is deeply attached to the bottom of the liver parenchyma, while dissecting the end point, care should be taken not to damage the left hepatic artery or the left hepatic duct over the hepatoduodenal ligament which is covered by the peritoneal lining of lesser sac(3, 5). Routine resection of ligamentum teres hepatitis may increase the morbidity(6), however in patients with peritoneal carcinomatosis the base of the ligamentum teres hepatitis should be observed under the hepatic bridge since it is the continuation of peritoneal tissue.

This video consists of a cadaveric surgical demonstration of ligamentum teres hepatitis resection over the portoumbilical fissure and a live patient video of 56 years-old woman who had a recurrent high grade serous ovarian cancer with widespread peritoneal implants. At the perihepatic region on the umbilical ligament there were tumor implants, which were resected.

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References

Figure 1. Localization of pont hepatique and hepatic segmentation with the anatomic structures of falciforme ligament and ligamentum teres hepatis

Figure 2. Cut end of ligamentum teres hepatis over the liver parenchyma superior to hepatoduodenal ligament (choledoc, portal vein and hepatic artery)
Figure 3. Tumor implants at ligamentum teres hepatis and pont hepatique