

Video Symposium I

Laparoscopic Left Sided Hepatectomy

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Introduction

The development of laparoscopic liver resection has been slow compared to developing this procedure for other organs. The main obstacles for laparoscopic liver resection used to be the risk of gas embolism, the difficulty to controlling hemorrhage and the inability to palpate the lesion. The fear of gas embolism has now decreased as there are only rare reports of this complication among the large number of accrued cases. The difficulty to controlling hemorrhage has also been overcome by performing meticulous surgical techniques with the newly developed instruments. Finally, intraoperative sonography has been used to locate the lesion and guide the resection plane even for deep-seated or impalpable lesion. Therefore, many reports on laparoscopic liver resection have recently been reported.

Left Lateral Sectionectomy

The laparoscopic approach to left lateral sectionectomy is usually the first approach attempted for anatomic liver resection at most centers and this procedure was reported to be the first laparoscopic liver resection that was done in pediatric patients. According to the international consensus statement, Left lateral sectionectomy was found by all participants to be the most straightforward moderate sized laparoscopic procedure, and there was agreement that in experienced hands, laparoscopy should be the standard approach for this particular operation.

Left lateral sectionectomy was performed with the patient being placed in a supine position with a 30° reverse Trendelenburg adjustment. The operator stood at the right side of the patient. The vascular and bili-

ary structures can be controlled during transection of the parenchyma or before starting the transection. With lateral traction of the divided round ligament, parenchymal transection just left to the falciform ligament was performed toward the cephalic direction with using a Harmonic scalpel. While the portal inflow and biliary structures were yet intact, transection of Glisson's pedicles to segments II and III can be done using an Endocutter or clip. An additional stapler could be used for the division of the left hepatic vein.

Left Hemihepatectomy

Tumorectomy is a feasible, safe type of resection for a small tumor located in the superficial, inferior part of segment IV. But when a tumor is located in the superior part or it is deep-seated, then left hemihepatectomy is the preferred type of resection. Tumorectomy of a small tumor located in the suprahepatic junction of the superior part of segment IV is also feasible, but this is very difficult and dangerous because the transection line encounters two main hepatic veins.

For positioning the patient for left hepatectomy, the lithotomy position is recommended because the operator standing between two lower limbs feels comfortable during manipulating the hilar structures or transecting the parenchyma.

Anatomical Segment IV or IV A resection

This particular type of anatomical monosegmentectomy is also feasible, but remain difficult procedures which should be reserved to experienced surgeons already facile with more limited laparoscopic

resections. To perform this procedure, glissonian approach is essential to control inflow. After transection of just right side of falciform ligament of hepatic parenchyme, glisson to segment IV can be exposed. If glisson branches to some part of segment IV will be preserved, anatomical segment IV A or IV B resection can be possible.

References

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