

·精品手术视频·

机器人辅助腹腔镜单一体位右侧肾癌根治并下腔静脉Ⅲ级癌栓取栓术

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摘要: **目的** 探讨单一体位机器人辅助腹腔镜根治性肾切除并下腔静脉Ⅲ级癌栓切除术的关键步骤及围术期结果。**方法** 患者女性,57岁。10 d前至当地医院体检,B超检查示右肾占位。MRI进一步检查示右肾实性占位,考虑透明细胞癌,伴右肾静脉及肝段下腔静脉内癌栓形成。超声造影示下腔静脉肝后段可见一低回声占位,范围约74 mm×40 mm,边界尚清,上缘距膈肌约19 mm。关键手术步骤:①切开侧腹膜向内推开结肠和十二指肠,游离、显露下腔静脉和左肾静脉。②在下腔静脉与腹主动脉之间左肾静脉后上方找到右肾动脉,用Hem-o-lok夹闭后切断。③在右侧肾静脉下方游离下腔静脉,结扎性腺血管及部分腰静脉,下腔静脉远心端游离后放置血管阻断带备阻断用。④将左肾静脉、第一肝门适当游离后,分别放置血管阻断带备阻断用。⑤沿下腔静脉向上分离,切断肝脏三角韧带、右侧冠状韧带后挑起肝脏,游离出右侧肾上腺中央静脉后用Hem-o-lok夹闭后切断。⑥解剖出肝后间隙并建立部分肝后隧道,游离右肝,分离并结扎下腔静脉外侧缘的肝短静脉;挑起肝尾状叶再解剖肝后间隙并结扎部分下腔静脉内侧缘的肝短静脉。⑦将右肝向左侧旋转显露肝后段下腔静脉后,沿下腔静脉外侧缘在膈下切断部分膈肌后,游离膈下下腔静脉,将下腔静脉游离后放置血管阻断带备阻断用。⑧依次阻断下腔静脉远端、左肾静脉、第一肝门和下腔静脉近心端。⑨切开下腔静脉后取出癌栓,将右肾及癌栓整块装入标本袋。⑩用4-0血管缝线缝合下腔静脉,再依次松开血管阻断带后检查血管有无渗血。**结果** 手术顺利完成,手术时间340 min,术中出血量400 ml,术中输注红细胞2 U和400 ml冰冻血浆。围术期患者肌酐正常,未出现明显并发症,术后10 d出院。随访26个月,患者一般情况良好,未出现复发或转移。**结论** 机器人辅助腹腔镜Ⅲ级癌栓取出术中,患者采取单一体位、由单一主刀医生完成手术,手术具有操作简单、术中无需更改体位、节省手术时间、创伤小、恢复快、并发症发生率低的优点,是一种安全、可行的治疗肝后下腔静脉癌栓的方法,需要选择合适的病例、完善围术期评估,并由经验丰富的机器人手术医生操作完成。

关键词: 机器人;肾根治性切除;下腔静脉癌栓

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Right radical nephrectomy and thrombectomy for Mayo Ⅲ inferior vena cava tumor thrombus under robot-assisted laparoscopy in a single position

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Abstract: Objective To explore the key steps and perioperative results of single-position robot-assisted laparoscopic radical nephrectomy combined with Mayo Ⅲ inferior vena cava tumor thrombus. **Methods** The patient was a 57-year-old female who went to the local hospital for physical examination 10 days ago, and B-ultrasound examination showed that the right kidney occupied space. Further MRI examination showed a solid mass in the right kidney, which was considered clear cell carcinoma, accompanied by tumor thrombus formation in the right renal vein and inferior vena cava of the hepatic segment. Contrast-enhanced ultrasonography showed a hypoechoic mass in the inferior vena cava in the inferior vena cava of the hepatic segment, with a range of about 74 mm × 40 mm and a clear boundary. The upper edge of the tumor thrombus was about 19mm away from the diaphragm. Key surgical steps: ①Cut the lateral peritoneum and push the colon and duodenum inward, free and expose the inferior vena

cava and left renal vein. ②Find the right renal artery behind and above the left renal vein, clamp it with Hem-o-lok and cut it off. ③Free the inferior vena cava below the right renal vein, ligate the genital vein and part of the lumbar vein, and place a vascular occlusion tape for occlusion after the distal end of the inferior vena cava is free. ④After the left renal vein and the first hepatic hilum are properly dissociated, place vascular occlusion bands respectively. ⑤After cutting off the triangular ligament of the liver and the right coronary ligament, the liver was provoked, and the central vein of the right adrenal gland was freed, clamped with Hem-o-lok and cut off. ⑥Dissect out the retrohepatic space and establish the retrohepatic tunnel, free the right liver, separate and ligate the short hepatic vein on the lateral border of the inferior vena cava; stir up the caudate lobe of the liver and then dissect the retrohepatic space and ligate part of the short hepatic veins. ⑦After rotating the right liver to the left to expose the retrohepatic inferior vena cava, dissociate the subdiaphragmatic inferior vena cava, and place a vascular occlusion band. ⑧Block the distal end of the inferior vena cava, the left renal vein, the first hepatic porta and the proximal end of the inferior vena cava in sequence. ⑨After cutting the inferior vena cava, take out the tumor thrombus, and put the right kidney and tumor thrombus into the specimen bag. ⑩Suture the inferior vena cava with 4-0 vascular sutures, and then loosen the vascular occlusion bands in turn to check whether the blood vessels ooze.

Results The operation was successfully completed, and the operation time was 340 minutes. The intraoperative blood loss was 400 ml, and 2 U red blood cells and 400 ml frozen plasma were transfused during the operation. The patient's creatinine was normal during the perioperative period, and no obvious complications occurred. The patient was discharged 10 days after the operation. During the 26-month follow-up, the general condition of the patient was good, and no recurrence or metastasis occurred. **Conclusion** In the Robot-assisted thrombectomy for Mayo III inferior vena cava tumor thrombus, the patient takes a single position and the operation is completed by a single surgeon. There is no need to change the body position during the operation, and it has the advantages of saving operation time, less trauma, faster recovery, and lower incidence of complications. It is a safe and feasible method for treating retrohepatic inferior vena cava tumor thrombus. This operation requires the selection of suitable cases, perfect perioperative evaluation, and is completed by experienced robotic surgeons.

Keywords: Robot; Radical nephrectomy; Inferior vena cava tumor thrombus