



Laparoscopic resection of retroperitoneal leiomyosarcoma involving the right ureter and internal iliac artery

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SUMMARY

This study aimed to show laparoscopic resection of retroperitoneal leiomyosarcoma involving the right ureter, internal iliac artery, and adnexa in a patient with a history of total abdominal hysterectomy. We reported a 60-year-old woman who complained of low back pain for about 2 years. She was referred from a local clinic for a 5 cm×6 cm right adnexal mass indicated by transvaginal ultrasound. Her serum cancer antigen 125 level was in the normal range. PET/CT suggested a 5.2c m×4.5 cm right adnexal mass and showed no evidence of metastatic diseases. She received total abdominal hysterectomy because of leiomyoma 11 years previously and right nephrectomy because of non-functioning severe hydronephrotic kidney 6 months ago before her admission to our hospital. A diagnosis of pelvic malignancy was suspected, and laparoscopic resection was scheduled. The procedure began with the release of the bowels from the right adnexa and side wall peritoneum. It seemed that it was a bilobed mass involving both the intraperitoneal and the retroperitoneal region. We removed the right



Figure 1 Laparoscopic resection of retroperitoneal leiomyosarcoma.

adnexa and collected it in a disposable pocket. Spindle cell tumor was diagnosed and there was insufficient evidence of malignancy by frozen section evaluation. We continued to dissect the remaining retroperitoneal mass. The key steps of the procedure are summarized in the video. The final pathologic report showed leiomyosarcoma involving the right ureter, internal iliac artery, and ovary. The patient received six courses of post-operative gemcitabine/docetaxel combination therapy. She was still in complete remission 6 months

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Length of video: 7.8 minutes; Size: 280 megabytes; Type of video file: .mp4



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Video 1 Laparoscopic resection of retroperitoneal leiomyosarcoma involving the right ureter and internal iliac artery.

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Video article

after surgery. Laparoscopic resection of retroperitoneal leiomyosarcoma from the obturator fossa was achieved successfully in a logical way (Online Supplemental Tables 1, 2). The critical point of the procedure is to have a good knowledge of the key anatomic landmarks of the pelvis.¹

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Patient consent for publication Not applicable.

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Supplementary table 1. Specific material needed for carrying out the procedure

No.	Items
1	Non-absorbable Polymer Ligating Clips (Hem-o-lok)
2	Disposable pocket

Supplementary table 2. A summary of tips for carrying out the procedure

No.	Tips
1	To expose and mobilize the key structures (such as the ureter, the obturator nerve, and so on) surrounding the lesions to avoid incidental injuries
2	<p data-bbox="387 517 823 551">To resect the mass in a logical way:</p> <p data-bbox="387 573 1281 663">First, dividing the right ureter and mobilizing the internal iliac artery and obturator nerve to free the right lateral side of the mass.</p> <p data-bbox="387 685 1281 775">Second, cutting the side wall peritoneum and opening the rectovaginal space to free the left lateral side of the mass.</p> <p data-bbox="387 797 1281 887">Third, separating the posterior vesical wall from the vaginal stump and the mass, and dividing the right ureter stump to free the caudal end of the mass.</p> <p data-bbox="387 909 1281 999">Fourth, dividing the right internal iliac artery to free the superior end of the mass.</p> <p data-bbox="387 1021 1281 1111">Fifth, resecting the mass along its lower edge and removing it from the vagina.</p> <p data-bbox="387 1133 1174 1167">Sixth, performing accurate hemostasis and closing the vaginal cuff.</p>