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Accepted 25 July 2022
Published Online First
2 August 2022

Psoas hitch ureteral reimplantation in 10 steps in oncologic surgery

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SUMMARY

In gynecological oncologic surgery, partial ureteral resection may be required to achieve a complete resection of the disease.¹ According to the length of ureteral defect, ureteroneocystostomy with psoas hitch can be indicated for ureteral reimplantation, especially when the resection involves the pelvic portion of the ureter. The principle of the psoas hitch technique is to mobilize the bladder, to transpose it to the ipsilateral psoas muscle, and to suture the ureter into the bladder with a tension-free anastomosis. However, when ureteral resection is too large to perform a ureteral reimplantation with psoas hitch technique, Boari bladder flap can be performed.²

The psoas hitch technique was performed on a 75-year-old patient diagnosed with a pelvic recurrence of a uterine sarcoma previously treated by

total hysterectomy, bilateral salpingo-oophorectomy and adjuvant radiotherapy. The management of this recurrence required neoadjuvant chemotherapy with doxorubicin and dacarbazine before the surgical procedure. The surgery comprised the en-bloc removal of the recurrence with a rectosigmoid resection and the resection of the pelvic portion of the left ureter. The patient consented to publication of this case study and the accompanying images.

The video shows our proposed standardized surgical procedure which takes an open approach to create psoas hitch ureteral reimplantation in a step-wise approach (Video 1). The surgery also included a mechanical colorectal anastomosis and an omental flap which are not included in this video.

We divided the procedure into 10 steps:

Step 1: Specimen removal

INTERNATIONAL JOURNAL OF
GYNECOLOGICAL CANCER

PSOAS HITCH URETERAL REIMPLANTATION IN 10 STEPS

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To cite: Leray H, Angeles MA, Vergriete K, *et al.* *Int J Gynecol Cancer* 2022;**32**:1208–1209.



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Video 1 Ureteroneocystostomy with psoas hitch to perform a ureterovesical tension-free anastomosis after pelvic ureteral resection.

- Step 2: Ureteral mobilization
- Step 3: Bladder mobilization
- Step 4: Bladder fixation to the psoas muscle (psoas hitch)
- Step 5: Cystotomy
- Step 6: Ureter spatulation
- Step 7: Posterior wall ureterovesical anastomosis
- Step 8: Pig-tail stent insertion
- Step 9: Anterior wall ureterovesical anastomosis
- Step 10: Bladder closure

Ureteroneocystostomy with psoas hitch should be considered for ureteral reimplantation after pelvic ureteral resection for gynecological malignancies,³ particularly those located close to the pelvic brim, as it allows a ureterovesical tension-free anastomosis. Post-operative complications can include urinary leakage, hydronephrosis due to ureteral stricture, urinary tract infection and stent-related dysuria.^{3,4} Previous radiotherapy is associated with a higher incidence of post-operative complications. These can usually be managed with a conservative approach, without surgical reintervention.^{3,4}

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Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not applicable.

Ethics approval Not applicable.

Provenance and peer review Commissioned; externally peer reviewed.

Data availability statement There are no data in this work.

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