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SKILL AND TALENT

Radical cystectomy, hysterectomy with double adnexectomy and bilateral nephroureterectomy with transvaginal extraction☆

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KEYWORDS
Laparoscopic surgery;
Surgical technique;
Cystectomy;
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Abstract

Objectives: The onset of synchronous urothelial carcinoma in the upper or lower urinary tract is uncommon. Even more uncommon is the onset the bilateral form. The aim of this article is to describe the surgical technique of complete laparoscopic exeresis of the urinary apparatus and to add several variants of the technique that improve the patient's hemodynamics during surgery.

Material and methods: We present the technique of cystectomy with bilateral nephroureterectomy, hysterectomy with double adnexectomy and bilateral ilio-obturator lymphadenectomy by laparoscopy and transvaginal extraction of specimens from a 58-year-old patient with multiple prior vesical resections of high-grade urothelial carcinoma. The patient currently presents bladder recurrence and bilateral ureteropelvic tumor. The technique consists first of the hysterectomy and double adnexectomy along with the lymphadenectomy and cystectomy, maintaining the urethrovesical, ureterovesical and uterovaginal junctions. After changing the patient's position, both nephroureterectomies were performed. Lastly, we completed the resection of the previously mentioned segments to extract the specimens transvaginally.

Results: The histological result was high-grade urothelial carcinoma that affected the bladder and both ureteropelvic junctions, along with endometrial carcinoma. After reviewing the literature, we found less than 10 cases in which complete exeresis of the urinary apparatus was performed and none with the technical description presented in this article. In most cases described in the literature, surgery was performed at two separate times and without preserving renal function until the end of the complete exeresis.

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Conclusion: This technique helps maintain diuresis for a longer time during surgery and thereby facilitates the work of the anesthesiologist and improves the patient's circulatory dynamics. Additionally, the technique prevents any type of handling of the urinary tract, thereby avoiding the passage of tumor cells to the peritoneal cavity, given that the specimens are extracted whole through the vagina.

PALABRAS CLAVE
Cirugía laparoscópica;
Técnica quirúrgica;
Cistectomía;
Doble nefroureterectomía

Cistectomía radical, histerectomía con doble anexectomía y nefroureterectomía bilateral con extracción por vía transvaginal. Descripción y consideraciones específicas de la técnica quirúrgica

Resumen

Objetivos: La aparición de carcinoma urotelial sincrónico en la vía urinaria superior e inferior es infrecuente, y lo es aún más la aparición de forma bilateral. El objetivo de este artículo es describir la técnica quirúrgica de exéresis completa del aparato urinario por vía laparoscópica y añadir diferentes variantes técnicas que permiten mejorar la hemodinámica del paciente durante la cirugía.

Material y métodos: Presentamos la técnica de cistectomía con nefroureterectomía bilateral, histerectomía con doble anexectomía y linfadenectomía ilio-obturatriz bilateral por vía laparoscópica y extracción de piezas vía transvaginal en una paciente de 58 años con múltiples resecciones previas vesicales de carcinoma urotelial de alto grado, que en la actualidad presentaba recidiva vesical y tumoración ureteropiélica bilateral. La técnica consiste en primer lugar en la histerectomía y doble anexectomía junto con linfadenectomía y cistectomía, manteniendo la unión uretrovesical, uniones ureterovesicales y la unión útero-vaginal. Tras cambiar de posición a la paciente se realizan ambas nefroureterectomías y finalmente completamos la resección de los segmentos antes referidos para extraer las piezas por vía transvaginal.

Resultados: El resultado histológico fue de carcinoma urotelial de alto grado que afecta a la vejiga y a ambas uniones ureteropiélicas, junto con carcinoma endometrial. Tras revisar la literatura hemos encontrado menos de 10 casos en los que se realice una exéresis completa del aparato urinario, y ninguna con la descripción técnica que presentamos en este artículo. En la mayoría de los casos descritos en la bibliografía se hace la cirugía en 2 tiempos y sin preservar la función renal hasta el final de exéresis completa.

Conclusión: Esta técnica permite mantener la diuresis más tiempo durante la cirugía, y de ese modo facilitar la labor del anestesista y mejorar la dinámica circulatoria del paciente. Además, de este modo se previene cualquier tipo de manipulación de la vía urinaria evitando el paso de células tumorales a la cavidad peritoneal, puesto que se extrae de forma íntegra las piezas a través de la vagina.

Introduction

A 58-year-old patient with a history of high blood pressure, hemorrhoids, mild kidney failure, anxiety, and urinary incontinence using absorbents, who was referred to our hospital from another hospital after 30 previous TURs due to high-grade urothelial cancer and bladder instillations with BCG. At present the patient has new bladder tumor recurrence and after performing abdominal-pelvic CT bladder of small capacity is observed with neoplastic lesion (Fig. 1A), bilateral ureteral dilation (Fig. 1B), filling defect in the lumbar ureter and right renal pelvis (Fig. 1C), as well as filling defect in the lumbar ureter and left renal pelvis (Fig. 1D). Bladder endoscopy is performed with tumor resection, with histological diagnosis of high-grade urothelial carcinoma, bilateral ureteroscopy, observing a mass in the right pelvic ureter, preventing the passage of the ureteroscope and a mass in the left lumbar ureter. Due to the high tumor burden and multiple location, recurrent disease, and high-grade carcinoma, radical resection surgery laparoscopically is indicated, performing bilateral nephroureterectomy, cystectomy, hysterectomy with double adnexectomy, and bilateral ilio-obturator lymphadenectomy in the same surgery, as well as removal of the parts together transvaginally (Fig. 2). Prior to the surgery, arteriovenous fistula had been performed to start postoperative dialysis. The histological diagnosis was high-grade urothelial carcinoma of the bladder, the right and left ureters extending to both renal pelvis and infiltrating nonkeratinizing squamous cell carcinoma affecting the uterus. There was no neoplastic involvement of the excised lymph node chains.

Methods and description of the technique

First we positioned the patient in supine position with slight Trendelenburg and 10-mm transumbilical port for the optical equipment that the assistant will carry, another 10-mm