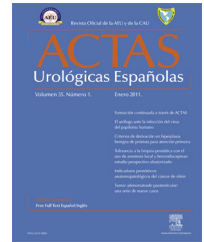




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SKILL AND TALENT

The best option: Umbilical LESS radical nephrectomy with vaginal extraction[☆]



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(NOTES)

Abstract

Introduction: Umbilical laparoendoscopic single-site (LESS) surgery represents an excellent alternative to laparoscopic or robotic multiport surgery. LESS surgery offers faster recovery, less postoperative pain and optimal cosmetic results. The reusable nature of its instruments also has significant economic advantages.

Patient and method: We present a 34-year-old patient with a solid mesorenal lesion measuring 8 cm in the left kidney treated with pure LESS radical nephrectomy assisted by vaginal extraction of the specimen. The umbilical approach using a single-site multichannel KeyPort (Richard Wolf GmbH, Knittlingen, Germany) with DuoRotate curved instruments allows for minimum crushing and fewer spatial conflicts. Its perfect umbilical adaptation provides a hermetic system. The instrument's double rotation provides considerable movement precision. Vaginal extraction avoids damage to the abdominal wall and the need for widening the umbilical incision.

Results: After the placement of the device and triangulation of the clips, we proceeded to operate on posterior parietal peritoneum. The descending colon was mobilized to access the retroperitoneum and dissect the renal hilum. Hem-o-lok clips were placed on the artery and vein, which were subsequently sectioned. The specimen was inserted into a laparoscopic bag. Under direct vision, we placed a 15-mm trocar through the bottom of the vaginal posterior fornix to facilitate the extraction of the bag's thread. The incision was widened with the fingers, and the specimen was extracted, closing the vagina from the perineum with visualization from the navel. Abdominal drainage was not employed. The surgical time was 180 min. The patient was discharged the following day without needing analgesia. A year later, the patient was disease-free and had no complications.

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PALABRAS CLAVE

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endoscópica por
orificios naturales
(NOTES)

Conclusions: Umbilical LESS radical nephrectomy with vaginal extraction is feasible in selected cases. The procedure is oncologically safe, avoids scars and facilitates early recovery. From a practical point of view, this approach greatly simplifies natural orifice transluminal endoscopic surgery (NOTES) and enables a minimally invasive equivalent result.

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La opción óptima: nefrectomía radical LESS umbilical con extracción vaginal

Resumen

Introducción: La cirugía laparoendoscópica a través de puerto único (LESS) umbilical constituye una excelente alternativa a la cirugía laparoscópica o robótica multipuerto. Ofrece precoz recuperación, menos dolor postoperatorio y óptimo resultado cosmético. La naturaleza reutilizable de los instrumentos implica también importantes ventajas económicas.

Paciente y método: Presentamos una paciente de 34 años con lesión sólida mesorrenal de 8 cm en riñón izquierdo tratada con nefrectomía radical LESS pura asistida por extracción vaginal del espécimen. El abordaje umbilical a través de dispositivo de puerto único multicanal KeyPort (Richard Wolf GmbH, Knittingen, Alemania) con instrumentos curvos DuoRotate permite mínimo agolpamiento y/o conflicto de espacio. Su perfecta adaptación umbilical proporciona un sistema estanco. La doble rotación del instrumental consigue gran precisión de movimientos. La extracción vaginal respeta la pared abdominal y evita la necesidad de ampliar la incisión umbilical.

Resultados: Tras la colocación del dispositivo y la triangulación de las pinzas se procedió a incidir el peritoneo parietal posterior. El colon descendente fue movilizado para acceder al retroperitoneo y disecar el hilio renal. Se colocaron Hem-o-loks en arteria y vena, que posteriormente fueron seccionadas. La pieza se introdujo en bolsa laparoscópica. Bajo visión directa se colocó trócar de 15 mm a través del fondo del saco posterior vaginal para facilitar la extracción del hilo de la bolsa. Se amplió la incisión con los dedos y se extrajo el espécimen cerrándose la vagina desde el periné con visualización desde el ombligo. No se dejó drenaje abdominal. El tiempo quirúrgico fue 180 min. La paciente fue dada de alta al día siguiente sin necesidad alguna de analgesia. Un año después se encuentra libre de enfermedad y sin complicaciones.

Conclusiones: La nefrectomía radical LESS umbilical con extracción vaginal resulta viable en casos seleccionados. Consigue seguridad oncológica, evita cicatrices y facilita la recuperación temprana. Desde un punto de vista práctico, este abordaje simplifica mucho la cirugía transluminal endoscópica por orificios naturales (NOTES) y permite alcanzar un resultado mínimamente invasivo equivalente.

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Introduction

Laparoendoscopic single-site surgery (LESS) in Urology began in 2007 with renal surgery,¹ probably due to the familiarity of the professional with the transperitoneal laparoscopic approach to perform nephrectomy. Several studies show the benefits of LESS renal surgery regarding multiport laparoscopy,²⁻⁴ although it seems necessary to carry out a greater volume of prospective comparative studies to confirm that the results achieved by centers of excellence can be generalized by the rest of the group.

The more recent addition of robotics to single-site surgery^{5,6} has been a new progress for the approach through this pathway, but the reality is that very few highly specialized centers have this technique in their portfolio of services, because it requires substantial provision of equipment and great training.⁷ There is no doubt that performing single-site surgery is a technological renovation challenge which is currently under slow

expansion. In fact, most urologic procedures have already been developed through single port: adrenalectomy, radical nephrectomy, partial nephrectomy, nephroureterectomy, living donor nephrectomy, ureteral replacement, ureteral reimplantation, increase enterocystoplasty, radical cystectomy, and radical prostatectomy.⁸⁻¹⁵

This relative success of LESS surgery contrasts with the lack of acceptance and very poor reproducibility of the dazzling transluminal endoscopic surgery through natural orifices (NOTES). There have been many evolutionary pathways of minimally invasive surgery to achieve the desired purpose of performing surgery without incision, conceptually using different approaches: transvaginal, transgastric, and transvesical.^{16,17} Here nephrectomy has been a paradigmatic technique as well. We present an option other than hybrid transvaginal nephrectomy with material of conventional laparoscopy^{18,19} or minilaparoscopy.^{20,21} Likewise, the option we describe also differs from NOTES, either in its assisted²² or pure²³ variant. In all these techniques, the lens,

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