



Laparoscopic Radical Hysterectomy for Endometrial Carcinoma in a Woman with an Ectopic Pelvic Kidney

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Abstract

A 59-year-old post-menopausal female presented with complaints of per vaginal spotting for 3 months. Histopathological examination of contents of dilation and curettage revealed endometrial carcinoma (FIGO stage I), along with benign endocervical polyps. MRI also showed presence of left-sided structure indicative of ectopic pelvic kidney. The patient underwent laparoscopic radical hysterectomy, bilateral salpingo-oophorectomy and bilateral ilio-obturator lymph node dissection. Dissection was started along the left pelvic plane. The left pelvic kidney was seen, and left ureter was located and confirmed below the uterus. The patient withstood the procedure well. Anomalies of pelvic anatomy, such as a malpresentation of the kidney and ureter, may prove as surgical challenges while performing open and laparoscopic surgery. However, in depth preoperative imaging, meticulous intraoperative dissection and proper identification of surrounding structures reduces the risk of such complications.

Keywords Kidney abnormality · Laparoscopy · Pelvic anatomy

Introduction

A pelvic kidney is a developmental anomaly due to the arrest of its ascent from the site of development in the pelvis to its normal anatomical position. It is known to be associated with multiple variations in vasculature, such as multiple vessel supply (single, double, triple) and variations in origin (the aorta, iliac vessel, hypo gastric artery, etc). It is also commonly found in conjunction with other congenital anomalies of the urogenital tract, such as vaginal atresia,

hypoplastic uteri, rudimentary fallopian tube and ovary, owing to the common embryonic origin. Although commonly asymptomatic, abnormal pelvic anatomy may pose challenges during surgery, knowledge of the anatomy and vasculature can be obtained from pre-operative imaging and arteriography. These become especially important in patients undergoing abdominal or pelvic surgeries [1]. Here, we describe a case of a post-menopausal woman undergoing a laparoscopic radical hysterectomy with the presence of an ectopic left pelvic kidney.

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Case Report

A 59-year-old post-menopausal female presented to a tertiary care hospital with complaints of per vaginal spotting for 3 months. She had a previous history of 2 full-term vaginal delivery at ages 30 and 37 which ended in the delivery of 2 healthy children. Histopathological examination of contents of dilation and curettage revealed endometrial carcinoma (FIGO stage I) with mucinous and squamous differentiation, along with benign endocervical polyps. Magnetic resonance imaging revealed a thickened endometrium measuring 27 mm (without myometrial invasion). MRI also



Fig. 1 Pre-operative contrast studies show presence of ectopic left kidney with anomalously placed ureter and intact pelvicalyceal system

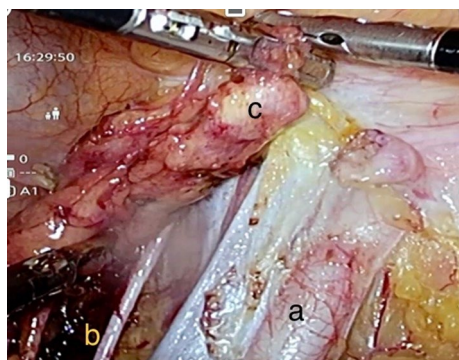


Fig. 2 Intra-operative image showing pelvic side wall with **a** External iliac vessels; **b** Obturator nerve; and **c** Enlarged lymph node

showed the presence of left sided structure indicative of an ectopic pelvic kidney (Fig. 1).

The patient underwent laparoscopic radical hysterectomy under epidural and general anaesthesia along with bilateral salpingo-oophorectomy and bilateral ilio-obturator lymph node dissection. Dissection was started along the left pelvic plane. The right ureter, vesicovaginal and rectovaginal pouches were identified. The left pelvic kidney was seen, and the left ureter was located and confirmed below the uterus, 2 cm below the lower pole of the pelvic kidney, just lateral to and abutting the uterosacral ligament. Bilateral round ligaments and uterine arteries were clamped, cut and cauterised, and the uterus along with ilio-obturator lymph nodes was removed vaginally (Fig. 2). The vagina was sutured, a drain placed, and the abdomen closed. The patient withstood the procedure well.

Discussion

The basic principle of laparoscopic and open surgery for cancer of the uterus is to identify the ureter, preserve its blood supply and do a complete nodal dissection without causing damage to the ureter. The ureter is identified starting at the sacral promontory (where it enters the pelvis), through its course in the retroperitoneum and pararectal spaces (medial Obakayashi and lateral Latzko space) and finally into its insertion into the bladder. This helps in performing effective nerve sparing radical hysterectomy. In addition, the uterine artery to be ligated is located at its origin and its anatomy is identified when it crosses below the ureter going from the lateral pelvic wall medially (known as ‘water under the bridge’) [2].

Anomalies of pelvic anatomy, such as a malpresentation of the kidney and ureter, distort this pelvic anatomy and cause difficulty in identifying important surgical landmarks and useful planes of dissection. In order to bypass these difficulties, the ureter must be identified at its origin at the renal pelvis and carefully traced in its entirety. This requires careful dissection and a cautious approach.

Similar cases of surgical interventions in women with pelvic anomalies have been described previously. A 52 year old post menopausal woman presented with vaginal bleeding. Preoperative examination and imaging showed a lesion on the cervix along with obstructed hemivagina, uterine didelphys and absent left kidney [3]. Another case showed a woman who had been diagnosed laparoscopically with a unicornuate uterus and ectopic ovary in the anatomical place of the left kidney [4]. These cases have similarly described the surgical challenges of operating on such patients and shown the advantages of diligent pre operative imaging in facing them. These cases, along with the above case, have also shown that in-depth preoperative imaging, meticulous intra-operative dissection and proper identification of surrounding structures are conducive to good surgical outcomes.

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Declarations

Conflict of interest The authors declare that they have no conflict of interest and nothing to disclose.

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