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Case Report

Ureteric endometriosis masquerading as ureteric neoplasm

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ABSTRACT

Endometriosis is a disease seen in 10-15% of reproductive age women, which involves the pelvic cavity. The urinary tract is affected in 1% cases of pelvic endometriosis, while 0.1-0.4% of ureteric endometriosis which is extremely rare. Ureteric endometriosis poses a diagnostic challenge, as it can be asymptomatic or can present as renal colic. It can lead to a severe burden on kidneys like hydroureteronephrosis, renal atrophy, and irreversible renal failure. Authors report an extremely rare case of ureteric endometriosis in a postmenopausal female, who presented with complaints of lower backache. Radiologically diagnosed as neoplastic ureteric stricture.

Keywords: Endometriosis, Hydronephrosis, Ureteric neoplasm, Ureteric obstruction,

INTRODUCTION

Endometriosis is characterized by the presence of endometrial tissue outside the uterine cavity. It is commonly affecting reproductive age, which is usually associated with infertility and chronic pelvic pain.[1] The most common location involved is in the pelvic cavity, generally noted in ovaries, fallopian tubes, uterosacral ligaments, and the pouch of Douglas. Endometriosis outside the endometrial cavity, involving the urinary tract is rare, while those involving the ureter is extremely rare.[2-4] Authors report an extremely rare case of unilateral ureteric endometriosis in an elderly postmenopausal woman, who presented with lower backache and dysuria

CASE REPORT

A 50-year-old postmenopausal woman presented to the urology outpatient department of a tertiary care hospital with complaints of lower backache and dysuria for 3.5 months. There was no history of fever, haematuria, or previous history of similar complaints. The abdominal examination was soft, non-tender, and no organomegaly was present. The clinical diagnosis of urolithiasis was made. Haematological and biochemical investigations were within normal limits. Urine cytology was unremarkable and showed no evidence of malignancy. Ultrasound (USG) revealed narrowing and kinking of lower 1/3rd of the right ureter, with dilatation of the proximal part of the ureter, along with mild hydroureteronephrosis at the level of L1/L2, The uterus was normal in size, and the right ovary appears enlarged, measuring 5×4cm with two tiny cysts on the surface. The USG diagnosis of high suspicion of ureteric malignancy with simple right ovarian cysts was given. Magnetic resonance (MR) urogram shows right mild hydroureteronephrosis with abrupt termination and shouldering of the lower ureter. Radiological diagnosis was suspicious of the neoplastic right ureteric stricture (Figure 1).

Intraoperatively, thickening and narrowing of lower 1/3rd of the right ureter with gross dilatation of the proximal ureter along with mild hydroureteronephrosis changes was noted. The uterus was of normal size, and the right ovary was enlarged with two chocolate cysts that were seen on the surface, which contained chocolate coloured fluid. There were no retroperitoneal haemorrhagic areas. Segmental resection of the thickened ureter and marsupialization of the right ovarian cysts were done. The resected specimens were sent for histopathological examination. Grossly, a thickened tubular structure (ureter

segment), was received measuring 1×0.5 cm. The wall appeared thickened and grey-brown with thinned out one resected margin of the ureter. A cut open cyst wall was also received measuring about 1.5×1.2 cm, which was brown in colour. Microscopy, ureter specimen showed proliferating, cystically dilated endometrial glands in the lamina propria, invading the muscularis propria. The surrounding stroma contained hemosiderin-laden macrophages and interstitial haemorrhage. The ovarian tissue also showed endometrial glands and stroma with haemorrhage and hemosiderin-laden macrophages (Figure 2). Histological diagnosis of intrinsic ureteral endometriosis along with right ovarian endometriosis was made. The postoperative period was uneventful, and the patient was discharged from the hospital on the 12th postoperative day. The patient was followed up for six months, with no evidence of recurrence during the follow-up period.

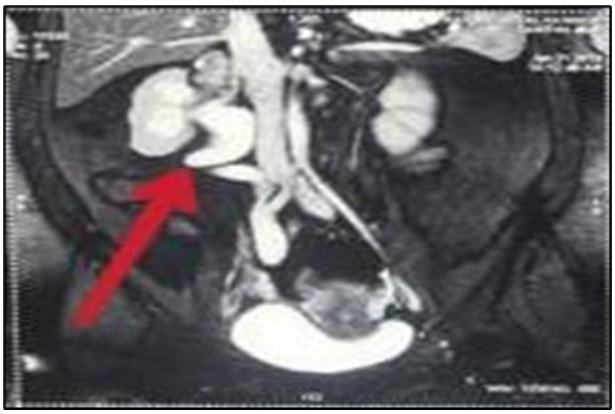

Figure 1: MR urogram of kinking of the right ureter with right hydroureteronephrosis.

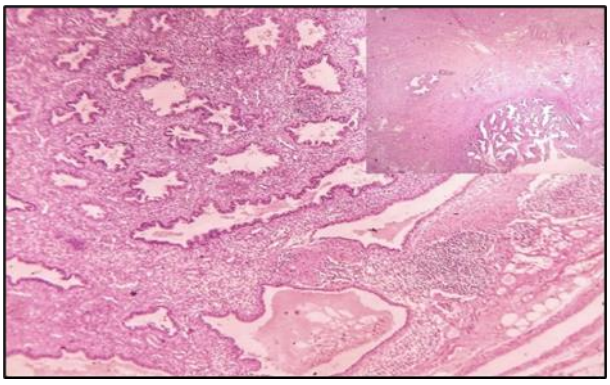

Figure 2: Ureter of proliferating endometrial glands involving lamina propria and muscularis propria (hpe 40×). Inset: ovarian cyst showing similar features (hpe 40×).

DISCUSSION

Endometriosis is an oestrogen-dependent chronic inflammatory condition that is characterized by ectopic presence and growth of functionally active endometrial glands and stroma outside the uterus.[5] It is seen in 8-10% of women in reproductive age; 30% of these women are is associated with infertility. Endometriosis persists as a mild disease, or it can resolve on its own. Other cases of endometriosis may show symptom of chronic pelvic pain that ends when menopause occurs because of the decrease in oestrogen level. Endometriosis can, however, reactivate in several postmenopausal women when iatrogenic or endogenous hormones are present.[6] In our case, the patient was a perimenopausal woman who did not have any symptoms during the reproductive age. The first references to endometriosis-associated symptoms are found in the Ebers Papyrus (Tebas, Egypt, 1500 B.C.). In 1860 Carl von Rokitansky provided the early identification and detailed description of endometriosis as a "chocolate cyst." It is considered a disease of 20th or 21st century.[7]

The histogenesis of endometriosis remains uncertain. Several hypotheses have been proposed regarding its potential origin. The first hypothesis suggests pelvic endometriosis may be a direct extension of endometrial cells favoured by previous pelvic surgery. In contrast, another theory suggests that deep infiltrating rectovaginal and vesicular endometriosis result from the seeding of regurgitated endometrial cells intraperitoneally. These cells collect and implant in the most dependent portions of the peritoneal cavity and the posterior and anterior cul-de-sac, which trigger an inflammatory process and result in adhesion of organs.[8] There was no evidence of implants in the peritoneal cavity or the pouch of Douglas.

Endometriosis can be classified as ovarian, peritoneal and deep infiltrating endometriosis.[5] Urinary tract involvement in deep infiltrating endometriosis is defined as implantation of endometrial glandular epithelium and stroma outside the uterine musculature and endometrial cavity, penetrating in the wall of pelvic organs and into retroperitoneal space up to at least 5 mm depth at different urinary sites.[9] Pelvic endometriosis involving the urinary tract system is seen in approximately 1% of cases, out of which bladder is the most commonly affected site. Ureteral involvement by endometriosis is extremely rare, with an incidence of 0.1-0.4% of the genitourinary tract.[3] The right-sided pelvis is more commonly involved than the left side, as seen in this case.

It is a benign condition that can sometimes be quite aggressive and can lead to a severe burden on the kidney. Clinically endometriosis presents as dysmenorrhea, intermenstrual bleeding, dysuria, dyspareunia, and dyschezia.[1] Solitary lesions can occur but severe disease results in distortion of anatomy and extensive adhesions that leads to chronic bleeding, pelvic pain and infertility.[10]

Ureteral endometriosis presents a diagnostic challenge, as the disease may be clinically silent or may be associated with non-specific symptoms like dysuria and lower backache mimicking renal colic, as seen in this case. Diagnosis is to be arrived based on the clinical history and radiological support. In cases of extrinsic ureteral endometriosis (endometrial tissue surrounding the ureter),

renal imaging is useful. In contrast, the diagnosis of intrinsic ureteral endometriosis (endometrial cells located within the ureter) is difficult as it mimics malignancy, as in our case. The prognosis of ureteral endometriosis depends on the time of diagnosis.[7]

Hormonal changes during menstruation give rise to recurrent interstitial haemorrhage and chronic fibrosis in the ureteric wall presenting as a mass-like lesion in the ureter. This type of fibrosis can give rise to hydronephrotic changes in the corresponding kidney, as seen in our case. Bilateral ureteric involvement can lead to urinary tract obstruction, ureterohydronephrosis, renal atrophy and irreversible renal failure.[10]

Management of endometriosis requires a multidisciplinary approach. Hormonal therapy, i.e., low dose combined oral contraceptive pills such as ethyl estradiol and progestins, are the drugs of choice along with analgesics that can be used. Surgical treatment includes removal of endometrial implants, hysterectomy with bilateral salpingo-oophorectomy, and ablation of uterosacral nerves.[1] Ureteral endometriosis needs segmental resection; if the corresponding kidney shows severe hydronephrosis, then nephrectomy needs to be performed.

CONCLUSION

Ureteral endometriosis is extremely rare. When a female patient of childbearing age presents with renal colic like manifestation during menstruation, ureteral endometriosis should be suspected. Preoperative assessment, proper history, clinical, and radiological examination can aid in the early diagnosis. Delay in diagnosis can lead to permanent loss of renal function. In most cases of ureteral endometriosis, laparoscopic surgery is preferred. Some patients may also benefit from progestin or anti-aromatase therapy.

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