PELVIC ENDOMETRIOSIS AND URETERO-HYDRONEPHROSIS: CLINICAL, IMAGISTIC AND SURGICAL IMPLICATIONS - CASE REPORT

C. Ilea, Ivona Lupașcu, Demetra Socolov, A. Cărăuleanu
University of Medicine and Pharmacy "Grigore T. Popa" - Iasi, Romania
Faculty of Medicine
Department of Mother and Child Medicine

PELVIC ENDOMETRIOSIS AND URETERO-HYDRONEPHROSIS: CLINICAL, IMAGISTIC AND SURGICAL IMPLICATIONS - CASE REPORT (Abstract): Endometriosis represent the presence and proliferation of functional endometrial-like tissue outside the uterine cavity, and is a chronic, recurrent, debilitating disease, in which kidney implications are rare, but complex. **Objective:** Evaluation of clinical, imagistic and surgical implications of uretero-hydronephrosis secondary to recurrent pelvic endometriosis. **Material and methods:** 30 year old patient diagnosed with primary infertility and left ovarian endometriosis (treated with classically conservative surgical procedure), presented acute onset of obstructive urinary symptoms, requiring internal drainage of the upper urinary straight path (Cook probe) for uretero-hydronephrosis grade III. CT and MRI examination reveals the presence of a imprecise pelvic mass incorporating right distal ureter and uretero-bladder ostium. **Results:** In this clinical and laboratory context, classic surgery is practicing with right aneectomy and direct right uretero-vesical reimplantation, also with psoas bladder-hitch. Histopathological examination confirmed the presence of recurrent ovarian endometriosis with right distal ureteral invasion. **Conclusion:** Recurrent endometriosis, although considered a benign condition, often present invasive characters, determining considerable anatomical destructions and severe symptoms. **Keywords:** PELVIC ENDOMETRIOSIS, URETERO-HYDRONEPHROSIS, CT, MRI.

Endometriosis is a hormonal and immune system disease in which cells similar to that which line the uterus (endometrium) grow outside the uterine cavity, being commonly found on other organs of the pelvis. Endometriosis is typically diagnosed during the reproductive years, and is more common in women who are experiencing infertility than in fertile women (1,2). It is considered a disabling and expansive condition in the pelvic region and beyond, including internal scarring, adhesions, pelvic cysts, chocolate cyst of ovaries, ruptured cysts, and bowel and ureteral obstruction resulting from pelvic adhesions (3). Less frequently, 10% of women in the reproductive age have involvement of the genitourinary tract by endometriosis, leading to hydronephrosis as a result of adhesions and scar formation (4). In this cases, symptomatology is represented by dysuria, suprapubic pain, hematuria. Medical therapy is palliative and definitive therapy is surgical (5,6). Here we present clinical,
Pelvic endometriosis and uretero-hydronephrosis: clinical, imagistic and surgical implications - case report

imagistic, and surgical implication in a case of pelvic endometriosis complicated with uretero-hydronephrosis.

**CASE REPORT**

In April 2011, thirty year old female patient (nulliparous/ no history of pregnancy) was admitted to our clinic with complaints of ongoing pelvic pain (accompanied by lower back pain/abdominal pain), dysmenorrhea, dyspareunia, constipation, chronic fatigue, nausea and vomiting, headaches, with exacerbation of the symptoms in the last 6 months, during her menstrual cycles. Her menarche occurred at the age of 14, with heavy and irregular menstrual periods. She did not receive a hormonal therapy before, and reports that for the past 2 years she has been unsuccessfully trying to conceive. At this moment, patient denied any urinary symptoms. A pelvic examination revealed a normal sized uterus that was fixed and slightly tender, but with exacerbation of painful sensation in the left adnexal region. Vaginal examination reveals a painful induration in the posterior fornix. Transvaginal ultrasonography demonstrated a heteroecogenic multicystic formation (45/39/37 mm), located in the left of uterus.

A magnetic resonance imaging (MRI) was performed, revealed the presence of tumoral mass with polycyclic contour and multicystic appearance, located between the posterior wall of the uterus and left anterolateral wall of rectosigmoidian junction (fig. 1).

We performed a classical laparotomy with ablation of tumoral formation (anatomopathological report confirming the presence of an endometriotic ovarian cyst)-preserving the left ovary - and lysis of intra-abdominal adhesions, for an severe pelvic adhesive disease to the posterior surface of the uterus, posterior cul-de-sac endometriosis, contributing to a distorted pelvic anatomy.

![Fig. 1. Tumoral pelvic mass with polycyclic contour and multicystic appearance characterised by hyperintense signal on fatsaturated T1-weighted images – MRI.](image)

The patient recovered well after her surgery and received Diphereline (Triptorelin Acetate) treatment - 3.75mg administered as one intramuscular injection repeated every 4 weeks (6 months). After surgery, the patient never presented for any clinical and laboratory reevaluation. In January 2013, the patient went to the emergency department for an acute episode of severe pelvic pain associated with abdominal cramps, vomiting, dysuria, and intermittent hematuria associated with the menstrual cycle. Renal functional tests (blood urea nitrogen/creatinine/creatinine clearance rate) were abnormal, but with normal urine culture. Pelvic ultrasonography revealed uretero-hydronephrosis grade II-III with no evidence of calculi, and the presence of a heteroecogenic multicystic formation (52/47/41mm), imprecisely delimited, located in the right of uterus. A contrasted abdominal computed tomography (CT) examination reveals the presence of severe obstruction of right distal ureter by an intraureteral enhanced soft
tumoral mass. In this context, urologists performed internal drainage of the upper urinary straight path (Cook probe) for uretero-hydronephrosis.

After intervention, a MRI examination reveals the presence of an imprecise pelvic mass incorporating right distal ureter and uretero-bladder ostium, characterised by hyperintense signal on fat-saturated T1-weighted images (fig. 2).

The double-J stent was kept in 6 weeks postoperatively, and after this, classic surgery is practicing with right anexectomy and direct right uretero-vesical reimplantation, also with psoas bladder-hitch. Histopathological examination confirmed the presence of recurrent ovarian endometriosis with right distal ureteral invasion. She will be followed up with a cystoscopy and pelvic magnetic resonance imaging scan in 4 months to check for endometriosis recurrence.

DISCUSSION

Endometriosis is defined as the presence of endometrial glands and stroma outside the uterus. The prevalence of endometriosis is unknown but estimates range from 2 to 10% of women of reproductive age (7). It predominantly affects women of reproductive age and is associated with pelvic pain and fertility problems (8). The aspects of the pathophysiology can basically be classified as underlying predisposing factors, inflammation, metabolic changes, formation of ectopic endometrium, and generation of pain and other effects (9). The ectopic endometrium can be limited to the superficial peritoneum in an otherwise normal pelvis (peritoneal endometriosis) but can also develop into ovarian endometriotic cysts (endometriomas) (10). In some cases, it involves the uterosacral ligaments, the rectosigmoid colon, the vagina, and the bladder and can cause a complete distortion of the pelvic anatomy (11). Urinary tract endometriosis (UTE) is observed in 1-2% of women with endometriosis, about 80% have urinary bladder involvement (12). In the evolution of this disease, recurrency is an essential feature. In our case, urinary symptoms were present at 20 months after the first intervention, in the context of hormonal treatment. It is difficult to say that was just a primary uretero-bladder
endometriosis, which occurs when the endometrial tissue is congenitally located within the urinary uretero-bladder wall. Most likely, in our case, was the case of a secondary endometriosis, due to iatrogenic lesion occurring after primary pelvic conservative intervention.

In this case, symptomatology is not specific, being represented by dysuria, suprapubic pain, cyclic urgency, and rarely hematuria, symptoms similar to those of recurrent cystitis, which may be responsible for its delayed diagnosis (13,14). Some authors suggest that negative urinary cultures in symptomatic individuals may suggest urinary bladder endometriosis (15). Transvaginal ultrasonography is the first-line imaging study when endometriosis is suspected: it is powerful, simple, widely available, and cost-effective, being recommended for diagnosing endometriotic ovarian cysts (16). On the other hand, MRI has high specificity for the diagnosis of endometriomas as a result of its ability to detect aged hemorrhagic content. MRI is also less operator dependent than transvaginal ultrasonography and is more sensitive for detecting foci of deeply infiltrating endometriosis, because of its ability to completely survey the anterior and posterior compartments of the pelvis (17).

In women in the reproductive years, endometriosis is merely managed: the goal is to provide pain relief, to restrict progression of the process, and to restore or preserve fertility where needed. In younger women, like our patient, with unfulfilled reproductive potential, surgical treatment attempts to remove endometrial tissue and preserving the ovaries without damaging normal tissue. Conservative treatment is very important, but may increase the risk of recurrence, like urinary tract endometriosis, the second most commonly involved site by extrapelvic endometriosis (18). Surgical management of uretero-bladder endometriosis may includes urethral resection for obstructive lesions, combined with reconstruction of the bladder, and association of medical therapy.

**CONCLUSIONS**

It is a rare case of endometriosis with involvement of the urinary tract leading to renal failure because of the silent obstruction of the ureter. In this case, the surgical treatment is the best choice, the symptomatology being nonspecific and the usual investigations such as CT, RMN and ultrasonography only suggesting this chronic condition.

**REFERENCES**


**NEWS**

**TRANSORAL ROBOTIC SURGERY (TORS) WITH THE MEDROBOTICS FLEX™ SYSTEM: FIRST SURGICAL APPLICATION ON HUMANS**

Head and neck surgery can be fraught with difficulties in accessing the pharynx and larynx. Minimally invasive surgery has developed with the recent advances in technology. Currently, a variety of high-definition multichannel videoendoscopes and robots became available. The authors present their experience in a new robotic surgical system-'The Medrobotics Flex™ System' at our tertiary referral unit. The aim of this prospective study was to assess the safety, functionality and ease of use of this new device. Thus far, this is the first study in live human subjects who have undergone surgery for the following conditions: (1) obstructive sleep apnoea involving the base of tongue, the tonsil and the velum; (2) vocal fold polyp; (3) carcinoma of the lateral edge of the tongue. No complications were recorded and the system provided good visualisation and access to these subsites without compromising safety or success. In summary, the authors found the Medrobotics Flex™ System to have certain other advantages including ease of set up and use besides being reliable and safe. (Remacle M, N Prasad V, Lawson G, Plisson L, Bachy V, Van der Vorst S. Transoral robotic surgery (TORS) with the Medrobotics Flex™ System: first surgical application on humans. *Eur Arch Otorhinolaryngol* 2015 Feb 8. Epub ahead of print)

Radu Dănilă