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Case Report
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A Case of Acute Renal Failure from Bilateral Ureteral Obstruction due to Endometriosis

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Abstract

Even though endometriosis is a common condition among women, ureteral endometriosis is a rare entity. Often with a silent presentation, ureteral endometriosis may lead to a systemic condition, which if left untreated may ultimately lead to irreversible kidney failure. We present a case of a 42-year-old patient who presented with hypertension due to acute renal failure caused by ureteral endometriosis. The patient underwent surgical treatment by a multidisciplinary team of gynecologists and urologists to restore normal kidney function.

Keywords: Endometriosis; Deep endometriosis; Acute renal failure

Introduction

Endometriosis is common in women of reproductive age with an incidence of 15% [1]. Ureteral endometriosis is a rare (1% to 5%) form of urinary tract endometriosis. Recent series find involvement of the urinary tract in about 15% to 20% of patients suffering from deep infiltrating endometriosis [2,3]. The aim of this article is to report a case of asymptomatic bilateral ureteric endometriosis presenting as acute renal failure and hypertension.

Case History

A 42-year-old nulliparous woman attended to her general practitioner for severe headache, vague back pain, nausea, and vomiting. She was immediately referred to the hospital because of the acute onset of symptoms. On clinical examination, the only finding was elevated blood pressure up to 180/120 mmHg. On admission to the internal medicine department, initial blood results demonstrated a normal full blood count and serum creatinine of 3.5 mmol/l. Further investigation with abdominal ultrasound revealed bilateral hydronephrosis with dilated ureters. This finding was confirmed with Magnetic Resonance Imaging (MRI) as depicted in Figure 1. After consultation by the urologists, the right ureter was catheterized with a double J ureteric catheter. Because of failed attempts for successful insertion of the double J ureteric catheter, a nephrostomy had to be performed on the left side the following day. Gradually, the uremia was resolved with serum creatinine level dropping at 1.7 mmol/l from the initial 3.5 mmol/l. The patient was referred to the gynecologic outpatient clinic to exclude a gynecologic pathology as a cause of ureteric obstruction. On clinical examination, vagina and cervix appeared normal and the uterus was of normal size. On bimanual examination, mobility was without tenderness but there was a slight non-tender, non-nodular thickening of the left paracervical tissues. The right parametrium was palpated as normal. Tumor markers (Ca125, SCC, and Ca 19-9) were normal. On the sixth day of hospitalization and having completed all necessary ultrasound, MRI, preoperative assessment, and bowel preparation, she underwent an exploratory laparotomy through a subumbilical midline incision. A multidisciplinary approach with urologists was indicated. Urologists anticipated difficulties with ureteric reimplantation, so they advised a laparotomy instead of a laparoscopic approach. Intraoperatively, there was no ovarian endometrioma or other visible lesions in the pouch of Douglas, pelvis, or uterosacral ligaments. Upon dissection of retroperitoneal structures and pelvic spaces, the perineal tissue was fibrotic. Both ureters were dilated with thick muscular wall, resembling the iliac arteries. Dissection of the ureteral canal after mobilization of the bladder revealed a thick fibrous tissue at the level of the uterosacral ligaments, covered by healthy-looking peritoneum which completely encased the ureters. Thick indurated tissues bilaterally were excised. Both ureters were cut below the pelvic brim at the level of the fibrous tissue and were reimplanted in the bladder with a bladder hitch procedure over a double J ureteric catheter. No part of the ureters

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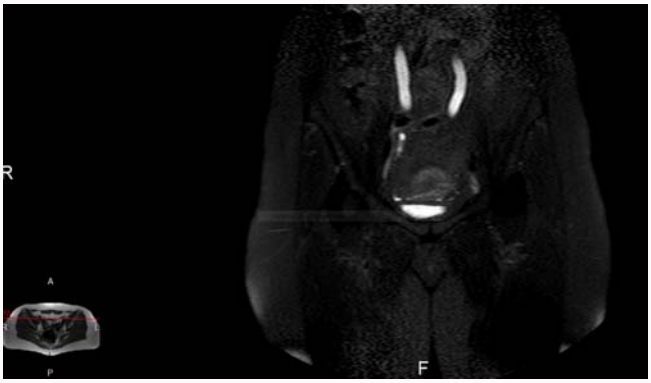

Figure 1: Dilated ureters in a 42-year-old patient with ureteric endometriosis, presenting with acute renal failure and hypertension- Magnetic Resonance Imaging.

was removed during re-implantation. The post-operative course was uneventful, with satisfactory vesicoureteral reflux. Creatinine levels gradually dropped to normal. Ureteral stents were removed three months later, on the follow-up appointment. The patient was asymptomatic with normal renal function and no further signs of hydronephrosis. Histology confirmed the presence of endometriosis on the peritoneal tissue that was removed.

Discussion

Ureteral endometriosis is a common spectrum of deep infiltrating endometriosis. It involves the left side more often than the right one as the presence of the sigmoid creates favorable conditions for endometrial cell seeding from the uterine cavity [1,2]. A bilateral manifestation of ureteric endometriosis is rare, occurring in 10% to 20% of cases [3]. It is well known that the severity of endometriosis is unrelated to symptoms. Most common clinical symptoms are chronic pelvic pain, congestive dysmenorrhea, and dyspareunia. In our case, severe headache caused by hypertension was the only symptom adversely affecting the patient. This case is illustrative of the insidious development of endometriosis and its capability of affecting only the urinary tract resulting in serious systemic disease. Several case reports are published in the literature indicating the commonly asymptomatic nature of the disease and the serious consequences it can have on renal function [1,4-6]. Ureteral endometriosis can present with non-specific symptoms for example dysmenorrhea, dyspareunia, pelvic pain, infertility, altered urinary functions, and frequent urinary tract infections, as well as lumbar pain. In exceedingly rare cases hematuria may be present. Progressive obstruction of the ureters may be subtle in the beginning but may lead to hypertension and acute renal failure in rare cases [7-9]. Ureteral obstruction is mostly associated with the presence of an endometriotic nodule. In our case, the presence of thick fibrotic peritoneal tissue surrounding the ureters was probably the mechanism that prohibited the normal peristalsis and ultimately led to ureteric dilatation [3,10]. Percutaneous nephrostomy under ultrasound guidance combined with unilateral ureteral stenting provided a resolution of the presenting symptom with renal decompression. Surgical treatment aims to free the ureter from all endometriotic tissue, restore normal function, and avoid morbidity [11]. Ureterolysis is performed in cases with minimal involvement of the ureters by external infiltration and retraction [12]. Endometriosis of the whole ureteric wall usually requires the excision of the abnormal tissue and restoration of the continuity of the urinary tract [13-15].

Conclusion

Ureteral endometriosis is a rare, but well-recognized, spectrum of deep infiltrative endometriosis that can lead to the establishment of acute or chronic renal failure and result in asymptomatic compromise of renal function. Surgical correction by ureterolysis or excision and reimplantation of the ureters is usually warranted for the restoration of patency of the urinary tract.

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