Urinary tract endometriosis

Dilip Kumar Pal
Department of Urology, Bankura Sammilani Medical College, Bankura, West Bengal - 722102, India.

ABSTRACT
Endometriosis is a common problem in women of childbearing age with multifocal sites of involvement in the pelvis. But urinary tract involvement with endometrial tissue is rarely seen. Here we report our experience of five patients with urinary tract endometriosis with their outcome.

KEY WORDS
Endometriosis, Ureter, Urinary bladder, Ultrasonography.

INTRODUCTION
Endometriosis is defined as the presence of ectopic endometrial tissue outside the normal confines of the uterine cavity. These ectopic lesions may consist of endometrial glands and/or stroma and may interfere with normal physiological process by their infiltrative nature or by the formation of adhesions. Endometriosis was first described by Russel in 1955. Abeshouse and Abeshouse(1960) on an extensive collective review on urinary tract endometriosis found 127 cases of vesical, 15 ureteral, 6 renal and pararenal and 3 urethral endometriosis. Ureteric involvement first described by Cullen(1917) in a patient with bilateral ureteric involvement. Since then 98 cases of ureteric endometriosis have been reported in English literature and 5 in Japanese literature; eight of them had bilateral involvement. Here we describe our experience of five cases of urinary tract endometriosis of which two had vesical and three had ureteric involvement.

MATERIALS AND METHODS
This study was undertaken at Urology Department of Bankura Sammilani Medical College and Hospital, Bankura for a period of seven years from 1996 to 2002. All the cases were referred from Gynaecology OPD. Among the five patients one was retrospective (Case No.1) and the others were prospective cases operated by the author. All the patients were examined thoroughly with special emphasis to pervaginal examination. Investigations like haemogram, blood sugar, renal biochemical parameters, USG of renal tract and lower abdomen were done in every patient. Intravenous urography was done in patients with loin pain or dilated pelvi-calyceal system on USG. Diagnostic laparoscopy was done before operation to assess the surrounding organ involvement by endometriosis. Cystoscopy was done in all patients to note any vesical endometriotic nodule and retrograde pylography was tried in patients where renal or lower ureteric shadows were not seen on IVU. All the patients were operated and nature of operation is noted in Table 1. Follow up was done for a period of 1 year to 6 years with USG, cystoscopy or IVU.

RESULTS
Youngest patient of our series was of 24 years age who had a caesarian section at her 20 years of age and the oldest patient was of 45 years. Pelvic pain and low backache were present in every patient. Urinary urgency, frequency and dysuria were the outstanding symptoms. Cyclical haematuria was most commonly seen with vesical involvement. Dull aching pain in the loin was present where ureter was involved. Among five patients three had past history of caesarian section. Pervaginal examination showed nodule was on posterior fornix in two cases. Kidney was palpable in two cases. USG of pelvis and abdomen showed bulky
Figure 1: USG of urinary bladder (Case no. 5) showing endometriotic nodule mimicking bladder tumour

Figure 2: Histological picture of excised endometrial tissue from urinary bladder showing classical picture of endometriosis (H & E X 400)

Table 1: Clinical presentation and management of cases

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Age</th>
<th>Site of urinary tract involvement</th>
<th>Clinical presentation</th>
<th>Treatment</th>
<th>Follow up</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>45</td>
<td>Urinary bladder</td>
<td>Cyclical haematuria, dysuria and pelvic pain with menorrhagia for 2 years. P/V exam - nodule at posterior fornix. P/H of LUCS 25 years back.</td>
<td>Total hysterectomy, bilateral salpingo-oophrectomy and partial cystectomy.</td>
<td>Lost for follow up</td>
</tr>
<tr>
<td>2.</td>
<td>39</td>
<td>Urinary bladder and right lower ureter</td>
<td>Urinary frequency, urgency, right flank pain, groin pain and severe low back pain for 3 years. Rt kidney was palpable. IVU-dilated rt pelvicalycial system. Past H/O LUCS 10 yrs back.</td>
<td>Subtotal hysterectomy with bilateral salpingo-oophrectomy. Partial cystectomy with removal of rt. Lower ureter with endometrial mass and ureteroneocystostomy.</td>
<td>Asymptomatic for six years</td>
</tr>
<tr>
<td>4.</td>
<td>24</td>
<td>Right lower ureter</td>
<td>Colicky flank pain worse during menstruation with recurrent UTI for 6 months. Past H/O LUCS 5 yrs back. IVU- dilated rt kidney and ureter.</td>
<td>Ureterolysis with D-J stenting and Danazole therapy.</td>
<td>Asymptomatic for 3 years.</td>
</tr>
<tr>
<td>5.</td>
<td>30</td>
<td>Urinary bladder</td>
<td>Cyclical haematuria, frequency urgency and suprapubic pain for 1 year (Fig.1). Past H/O LUCS 3 yrs back.</td>
<td>Transurethral resection of the bladder mass with hormone therapy followed by partial cystectomy after 7 months</td>
<td>Asymptomatic for 1 years</td>
</tr>
</tbody>
</table>
Utter and grossly dilated upper urinary tract in three cases. On USG vesical nodule was seen in case no. 5 simulating the bladder tumour. In two cases IVU demonstrated a dilated ureter and pelvi-calyceal system and in another there was nonvisualisation of kidney. Retrograde ureterography was tried in those two cases but the ureteric catheter could not be negotiated beyond 2 cm of ureteric orifice. All the cases were operated and the nature of operation has been summarised in Table 1. The case no. 5 was operated by transurethral resection of the bladder mass with a provisional diagnosis of transitional cell carcinoma but histological diagnosis was endometriosis. Again it recurred within three months and a partial cystectomy of the tumour bearing area cured the patient.

**DISCUSSION**

Although endometriosis is a benign condition but it may have an aggressive clinical behaviour. It occurs in 15-20% women of childbearing age. Most commonly it affects the organs like ovaries, uterosacral ligaments, fallopian tubes, rectum and cervico-vaginal region. The incidence of urinary tract involvement, though uncommon is estimated to be about 1% of which vesical involvement is the most common of them. Usually the women of the 3rd or 4th decade of age are affected with a peak incidence in between 30-35 years. Chronic pelvic pain with urinary urgency, frequency, dysuria, dyspareunia with or without cyclical haematuria are the outstanding clinical symptoms. Ureteric involvement may present with backpressure changes in the kidney or anuria with bilateral ureteric involvement. Diagnosis of such cases are difficult due to nonspecific symptoms. High index of suspicion to all symptomatic women with a history of caesarian delivery or other gynaecological surgery gives a clue to the diagnosis. USG is the initial step of investigation to detect the vasal endoluminal mass or upper urinary tract dilatation.IVU is still very much useful to detect the integrity of the upper tract and ureter. Cystoscopy and biopsy may give a clue to the diagnosis before operation. Retrograde ureterography may show the length of ureteric involvement. Abdominal laparoscopy is useful to assess the extensiveness of the disease. MRI or CT scan does not provide any different or precise information than an ultrasound scan.

Treatment varies according to the severity and site of involvement of each case. Hormonal therapy with danazol does have a definite role in regressing the lesion but in cases with urinary tract involvement, surgical treatment is a better option because the condition may lead to kidney loss up to 25%. Aggressive surgical treatment with removal of ectopic tissue, relief of urinary obstruction and castration with or without hysterectomy is recommended following a reasonable parity if there is urinary tract involvement. In the younger patients with reproductive capability endometriosis should be resected with or without hormonal treatment and urinary function should be reviewed with preservation of ovarian function with strict periodic surveillance of urinary tract integrity. The incidence of urinary tract involvement, though uncommon is estimated to be about 1% of which vesical involvement is the most common of them. Usually the women of the 3rd or 4th decade of age are affected with a peak incidence in between 30-35 years. Chronic pelvic pain with urinary urgency, frequency, dysuria, dyspareunia with or without cyclical haematuria are the outstanding clinical symptoms. Ureteric involvement may present with backpressure changes in the kidney or anuria with bilateral ureteric involvement.

**REFERENCES**