URETERAL ENDOMETRIOSIS

Literature
(bladder and ureteral endometriosis)

• Dubuisson and Chapron. Human. Reprod., 2002
• Donnez et al. Fertil. Steril., 2002
• Bonucca et al. Fertil. Steril., 2001
• Fedele et al. Fertil. Steril., 2005; 83(5):1719-23
• Vitagliano G et al. J. Endourol., 2006; 20(12):1072-4
• Castillo et al. Arch. Esp. Urol., 2007; 60(9):131-4
• Vitagliano G et al. J. Endourol., 2007; 21(2):169-71
• Slack et al. BJOG., 2007; 114(10):1278-82

ANATOMY OF THE URETER

1. Mucosa with submucosa
2. Muscularis propria
3. Submucosal gland
4. Artery between mucosal and adventitial coat
5. Artery proper
6. Peritoneum
Prevalence according to the size of the nodule

<table>
<thead>
<tr>
<th>Size of the nodule</th>
<th>Nodule n.</th>
<th>Ureteral lesions</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 3 cm</td>
<td>96</td>
<td>9</td>
<td>9.3 %</td>
</tr>
<tr>
<td>2-3 cm</td>
<td>97</td>
<td>1</td>
<td>1 %</td>
</tr>
<tr>
<td>&lt; 2 cm</td>
<td>61</td>
<td>0</td>
<td>0 %</td>
</tr>
<tr>
<td>TOTAL</td>
<td>254</td>
<td>10</td>
<td>3.9 %</td>
</tr>
</tbody>
</table>

Donnez et al, Fertil. Steril., 2002
DIAGNOSIS

- IVP:
  - Stricture (n=19)
  - Substenosis with or without pyelic dilatation (n=48)
  - Complete stenosis with severe pyelic dilatation and cortical atrophy (n=11)
- Kidney scintigraphy in cases of complete stenosis. If < 15%, nephrectomy is proposed (n=11) (14%)
- CA 125: 60.19 (25.8 - 100)

Four types of surgery:

- 1) Dissection – ureterolysis
- 2) Partial resection and anastomosis
- 3) Nephrectomy in case of kidney atrophy due to ureteral stenosis
- 4) In case of recurrence of hydronephrosis after ureterolysis, ureteral reimplantation

Dissection – ureterolysis

- Partial resection and anastomosis
- Nephrectomy in case of kidney atrophy due to ureteral stenosis
- In case of recurrence of hydronephrosis after ureterolysis, ureteral reimplantation
SURGICAL STEPS

1) Dissection of the ureter over a length of ± 5 cm from just above the « stenosis » to the site of the ureteral lesion
2) External dissection (aquadissection)
3) Bipolar coagulation and uterine artery resection (if necessary)
4) Ureterolysis through the broad ligament to the retrobladder space
5) When the ureter is completely free, resection of the periureteral fibrotic ring
In all cases but one, ureteral stenosis was caused by lateral extension of the recto-vaginal adenomyotic nodule

Lateral and upper extension of retroperitoneal disease (endometriosis or adenomyosis with bowel perivisceritis → ureteral stenosis)

Ureterolysis
Ureterolysis

Resection of periureteral endometriotic ring

Final result
URETERAL « ENDOMETRIOSIS » COMPLICATIONS OF SURGERY

• Fistula (n=3/78)(4%)
  – Treated by JJ stent (n=2) or by ureterocystotomy(n=1)
  – Prevention with systematic JJ stent in case of large nodule with lateral extension (> 3 cm) or pathological IVP

• Dissection – ureterolysis

• Partial resection and anastomosis

• Nephrectomy in case of kidney atrophy due to ureteral stenosis

• In case of recurrence of hydronephrosis after ureterolysis, ureteral reimplantation

THERE IS A NEED FOR URETEROLYSIS BUT RARELY FOR URETERAL RESECTION
Histology proved that stenosis was due to smooth muscle hyperplasia after the metaplastic transformation of the retroperitoneal space.
• Dissection – ureterolysis

• Partial resection and anastomosis

• Nephrectomy in case of kidney atrophy due to ureteral stenosis

• In case of recurrence of hydronephrosis after ureterolysis, ureteral reimplantation
Loss of left kidney function

[Image of medical scans and operating room]

[Text]

12/01/2016

13
• Dissection – ureterolysis
• Partial resection and anastomosis
• Nephrectomy in case of kidney atrophy due to ureteral stenosis

• In case of recurrence of hydronephrosis after ureterolysis, ureteral reimplantation

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<table>
<thead>
<tr>
<th>Ureteral endometriosis</th>
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</thead>
<tbody>
<tr>
<td>Substenosis without pyelic dilatation</td>
</tr>
<tr>
<td>Ureterolysis and nodule excision</td>
</tr>
<tr>
<td>Substenosis with pyelic dilatation</td>
</tr>
<tr>
<td>Ureterolysis* and nodule excision</td>
</tr>
<tr>
<td>&gt; 15%</td>
</tr>
<tr>
<td>Laparoscopic nodule excision</td>
</tr>
<tr>
<td>&lt; 15%</td>
</tr>
<tr>
<td>Complete stenosis with cortical atrophy</td>
</tr>
<tr>
<td>Nephrectomy and ureterectomy</td>
</tr>
<tr>
<td>In case of recurrence: Ureteral reimplantation into the bladder</td>
</tr>
</tbody>
</table>

* Ureteral resection was necessary in only 3 cases (3/78; 4 %)
Bladder endometriosis (n=61)

• Main symptoms:
  – Menstrual mictalgia or recurrent cystitis (96 %) (menstrual hematuria: only 6 %)
  – Dysmenorrhea and deep dyspareunia because of association with rectovaginal nodules in 65 % of cases

• Diagnosis:
  – Vaginal examination
  – Vaginal echography
  – MRI
  – Cystoscopy

• Surgery:
  – Laparoscopic partial cystectomy (recurrence: n=1; < 2 %)
VESICAL ADENOMYOSIS

BLADDER ENDOMETRIOSIS

DIAGNOSTIC EXAMS

• Transvaginal echography: hypoechogenic lesion
• Pyelo-uro-cystography: extrinsic compression of the bladder wall
• Cystoscopy: visualisation of endometriotic foci on the bladder mucosal surface
• MRI: enlarged utero-vesical space (sagittal section)
Post bladder nodule resection