Fibroepithelial polyp of the ureter prolapsing into the bladder

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Section: Uroradiology & genital male imaging
Area of Interest: Genital / Reproductive system male
Procedure: Contrast agent-intravenous
Procedure: Endoscopy
Procedure: Biopsy
Imaging Technique: CT
Imaging Technique: Percutaneous
Imaging Technique: Image manipulation /
Reconstruction
Special Focus: Neoplasia Pathology Case Type: Clinical Cases
Patient: 46 years, female

Clinical History:
A 46–year–old female was admitted with painless gross intermittent haematuria. Physical examination revealed a polyp protruding from the external urethral meatus. She had no history of nephrolithiasis or urinary tract infection and blood tests were normal.

Imaging Findings:
We performed CT urography protocol with three different image acquisitions: unenhanced scan, early enhanced nephrographic phase and delayed excretory phase image. Nephrographic phase demonstrated a contrast enhanced vermiform solid mass protruding from the right ureteral orifice into the bladder. On the excretory phase the lesion manifested as a 6 cm cylindrical and smooth filling defect including the distal part of the right ureter and reaching the bladder (Fig. 1).
Cysto Ureteroscopy demonstrated a lesion protruding through the right ureteral meatus that was mobilised with the emission of urine (Fig. 2). The result of urine cytologies resulted in mild atypia.
Finally the patient underwent ureteroscopic procedure, using a rigid scope and receiving spinal anaesthesia. The polypoid lesion was ureteroscopically resected, performing the excision of the lesion by fulguration of the base with Holmium laser (Fig. 3).
Anatomopathological study was consistent with a ureteral fibroepithelial polyp (Fig. 4).

Discussion:
Primary ureteral neoplasms are rare tumours and are commonly malignant, with 91% being transitional cell
carcinoma [3, 8]. Ureteral fibroepithelial polyps are mesodermal origin tumours and they are the most common benign tumours of the ureter [4, 9].

These lesions are more common in males in the third to fourth decades of life, with a predilection for the ureteropelvic junction or the proximal segment of the ureter [2, 5]. Polyps derived from the lower urinary tract, as in the present case we describe, are not as frequent. Congenital factors and local chronic urothelial irritants have been proposed as aetiologic factors. However, the exact aetiology is not clear [1, 5, 7].

Histologically are composed of hyperplastic fibroconnective tissue with a vascular stroma and a urothelial lining. Malignant transformation rates are very low [9, 2]. They are typically single cylindric smooth structures and may freely move within the ureteral lumen since are attached to the ureteral wall by a pedicle [3]. Its dimensions are variable and can reach a length of up to 12 cm, large polyps can reach the bladder cavity, as happened in our patient [2, 7, 5]. Patients can present haematuria and intermittent or recurrent flank pain, due to either torsion of the polyp or intermittent obstruction [1, 2]. Dysuria or other lower urinary tract symptoms are rare, but can be present if the polyp is located in the distal ureter [2, 6].

The diagnosis is based on demonstrating the presence of an elongated smooth filling defect within the ureteral lumen joined by a thin pedicle with an intact mucosal surface [2, 3]. Intravenous urography, retrograde pyelography, CT urography examinations and ultrasound are useful tools in the diagnostic process however, to reach the final diagnosis, histopathological analysis from endoscopic biopsy is fundamental [5]. Complete excision is the treatment of choice and traditionally surgery was the first option. Nowadays with the development of endoscopic urologic techniques a minimally invasive approach is possible and these ureteral lesions can be endoscopically managed, including percutaneous or ureteroscopic excisions [1, 5, 7].

**Differential Diagnosis List:** Ureteral fibroepithelial polyp, Malignant neoplasms (Transitional cell carcinoma), Blood clots, Calculi, Fungus balls, Sloughed papillae

**Final Diagnosis:** Ureteral fibroepithelial polyp

**References:**

Chuanliang Xu Imaging diagnosis and endoscopic treatment for ureteral fibroepithelial polyp prolapsing into the bladder. Journal of X-Ray Science and Technology (PMID: 24004869)


Petr Klézl, Otakar Štanc Benign fibroepithelial polyp of the ureter. Central European Journal of Urology (PMID: 24579021)


YUNLIN CAI, ZONGPING ZHANG and XIAOFENG YUE (2017) Rare giant primary ureteral polyp: A case report and literature review. MOLECULAR AND CLINICAL ONCOLOGY (PMID: 28451407)


Description: H-E (100 X). Microscopic view of the fibroepithelial polyp without atypia and oedematous lamina propria with chronic inflammation. Origin: García Lagarto, E. Department of Pathology, HCU Valladolid, Spain
Description: H-E (400 X) Normal Urothelium without evidence of dysplasia

Origin: García Lagarto, E.
Department of Pathology, HCU Valladolid, Spain
Description: Gross specimen of the resected polyp via uteroscopy
Origin: Department of Urology.
HCU VALLADOLID
Figure 3

Description: Cysto Ureteroscopy. Polypoid mass with smooth surface, arising from the right ureter.

Origin: Department of Urology. HCU VALLADOLID.
Description: Coronal enhanced CT image (nephrographic phase) shows a corkscrew configuration contrast enhanced mass (red arrow) within the distal right ureter extending into the urinary bladder. Origin: Casadiego Matarranz L, Department of Radiology. HCU VALLADOLID, SPAIN
Description: Axial enhanced CT image (nephrographic phase).
Polyp within the distal right ureter extending into the urinary bladder (red arrow). Origin: Casadiego Matarranz L, Department of Radiology. HCU VALLADOLID, SPAIN
**Description:** Axial excretory phase CT examination: filling defect including the distal part of the right ureter and reaching the bladder. **Origin:** Casadiego Matarranz L, Department of Radiology. HCU VALLADOLID, SPAIN
**Description:** Smooth filling defect can be observed in the distal ureter cavity (red arrow). **Origin:** Casadiego Matarranz L, Department of Radiology. HCU VALLADOLID, SPAIN