

Pyeloureteritis cystica

Salpigidis G, Zinolidis D, Charalambous S, Papathanasiou A, Rombis V

Department of Urology, Hippokratio General Hospital, Thessaloniki, Greece

Abstract

Pyeloureteritis cystica is a rare situation of the renal pelvis and ureters, characterized by cystical formations of the epithelium. The etiology is unknown and there is no specific treatment. It is usually diagnosed accidentally during imaging of the upper urinary tract for different reasons. We present a case of pyeloureteritis cystica. Hippokratia 2010; 14 (4): 284-285

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Corresponding author: Zinolidis Dimitrios, Department of Urology, Hippokratio General Hospital, 49 Konstantinoupoleos Str, Thessaloniki 54642, Greece. Tel: 00302310892378, Fax:00302310826666, e-mail: doczino@yahoo.gr

A 76-year-old man presented at the Urology outpatient clinic of Hippokratio General Hospital, with lower urinary tract symptoms (LUTS) since five years. A-blocker treatment was not effective.

Digital rectal examination revealed an enlarged prostate gland (benign prostate hyperplasia-BPH). External genitals were normal and right side hernia demonstrated.

High blood pressure and mild stroke five years ago completed his medical history.

The man had been working for twelve years as a welder and since the last thirty years worked in his farm.

Urine examinations were within normal values and

blood test for renal function was normal as well. Prostatic specific antigen (PSA) value was normal.

The kidney-ureters-bladder (KUB) x-ray showed a small lower calyx calculus on the left kidney (Figure1). Intravenous urography (IVU) showed a normal right kidney and ureter. Left renal pelvis and ureter appeared dilated with multiple small filling defects, along its length (Figure 2). The imaging findings were compatible with the diagnosis of Pyeloureteritis Cystica.

After transurethral prostatectomy the patient was discharged from the hospital with instructions to repeat intravenous pyelography six months later.

Discussion

Pyeloureteritis Cystica represents a rare abnormality that was first described in 1761 by Morgagni¹. It is difficult to calculate the exact number of cases worldwide. According to Petersen et al, at least 200 cases have been described until today¹. Kaneda H et al reported the 25th case of pyeloureteritis cystica in Japan in 1986². Kono T et al found 55 cases published in Japan until 1993³. The abnormality is much more frequent than the clinical cases.

It usually affects older individuals, equally males and females, while in 1/3 of cases is bilateral.

Most investigators agree that the cause is usually some kind of irritating agent on the epithelium. The most common agent is believed to be inflammation secondary to infection. According to Menendez et al, infection is the cause in 53% of the cases⁴.

First von Brunn in 1893⁵ described epithelial bodies lying below the mucous membrane from downward proliferation into the mucosa. This leads to the formation of small cysts that can be isolated and called "cell nests of von Brunn". Theoretically we can find them everywhere on the urothelium, but most often are seen in the upper third of the ureters or the pelvis, except for bilharzial induced ureteritis cystica which is found in the distal ureter⁶.



Figure 1: Small lower calyx calculus on the left kidney.



Figure 2: Left renal pelvis - ureter dilated with multiple small filling defects.

Cyst size is usually no more than a centimeter in diameter and can protrude from the mucosal surface and become pedunculated⁶. Coexisting cysts have been described outside the renal parenchyma and collecting system⁷.

Although ureteritis and adenocarcinoma may occur in the same patient, at the same time, it does not appear to be a premalignant lesion. Richmond and Robb described such a case⁸. Chang H et al published an article in 1987 suggesting some connection between ureteritis and benign fibrous ureteral polyps⁹. Jensen and Riemann in 1969 reported a case of ureteritis cystica in medullary sponge kidney¹⁰.

There are no typical symptoms for ureteritis cystica. Obstruction from cysts or scar tissue sometimes causes lumbar pain. It usually is an accidental finding during im-

aging of the collecting system of kidneys and ureters for other reason. However it can cause recurrent uroinfections and microscopic haematuria.

Intravenous pyelography or retrograde urography is the gold standard for diagnosis. The typical findings are small and multiple filling defects of the ureter and pelvis. Ureteroscopy can provide pathological confirmation of the benign diagnosis. Differential diagnosis to ureteritis cystica includes tumors of the ureters and pelvis, non-opaque calculi, blood clots and iatrogenically induced air-bubbles.

No specific treatment for Pyeloureteritis cystica is known. Over the years different methods have been tried, e.g. ureteral dilatation, mechanical disruption of cysts and installation of 1% AgNO₃, with no results. Today a more conservative approach, with antibiotics when infection is present and repeated intravenous pyelography as follow-up is considered to be the treatment of choice.

References

1. Petersen U, Kvist E, Friis M, Krogh J. Ureteritis Cystica. *Scand J Urol Nephrol.* 1991; 25: 1-4.
2. Kameda H, Okano M, Akino H, Isomatsu Y, Muranaka K, Kanimoto Y, et al. Pyeloureteritis Cystica, report of a case. *Hinyokika Kyo.* 1986; 32: 740-744.
3. Kono T, Nakatani T, Kawashima H, Fu O, Kasai S, Kishimoto T. Ureteritis cystica diagnosed by biopsy under a ureteroscope: a case report. *Hinyokika Kyo.* 1993; 39: 1043-1045.
4. Menendez V, Sala X, Alvarez-Vijande R, Sole M, Rodriguez A, Carretero P. Cystic Pyeloureteritis: review of 34 cases. Radiologic aspects and differential diagnosis. *Urology.* 1997; 50: 31-37.
5. von Brunn A. Über drüsenähnliche Bildungen in der Schleimhaut des Nierenbeckens, des Ureters und der Harnblase beim Menschen. *Arch Mikr Anat.* 1893; 41: 294-302.
6. Parker B, Patel B, Coffield KS. Ureteritis cystica presenting as a retractile ureteral polyp. *J Urol.* 2002; 168: 195-196.
7. Askari A, Herrera HH. Pyeloureteritis Cystica. *Urology.* 1980; 16: 398-399.
8. Richmond HG, Robb WA. Adenocarcinoma of the ureter secondary to ureteritis cystica. *Br J Urol.* 1967; 39: 359-363.
9. Chang HH, Ray P, Ockuly E, Guinan P. Benign fibrous ureteral polyps. *Urology.* 1987; 30: 114-118.
10. Jensen EM, Riemann TJ. Simultaneous occurrence of medullary sponge kidney and pyeloureteritis cystica. *Dan Med Bull.* 1969; 16: 221-224.