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Calcified Schistosomal Ureteral Polyp Mimicking a Stone, Complicated by Acute Obstructive Pyelonephritis: A Case Report

Ouzidane Yassine[1*], Elftouhi Hamza[1], Benkerroum Abdelmouiz[1], Naciri Ayoub[1], Deghdagh Yassine[1], Kbirou Adil[1], Moataz Amine[1], Dakir Mohamed[1], Debbagh Adil[1], Aboutaieb Rachid[1]

[1]Department of Urology, CHU Ibn Rochd, Casablanca, Morocco

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***Corresponding author:** Ouzidane Yassine
Department of Urology, CHU Ibn Rochd, Casablanca, Morocco

Abstract **Case Report**

Calcified schistosomal ureteral polyps are a rare complication of urinary schistosomiasis (Schistosoma haematobium) that can mimic ureteral stones and lead to diagnostic errors. We report the case of a 72-year-old woman with a 15-year history of hypertension, admitted for acute obstructive pyelonephritis of the left kidney. Abdominal-pelvic CT revealed severe ureterohydronephrosis proximal to a hyperdense lumbar ureteral lesion (9 × 8 mm, 788 HU), initially interpreted as an impacted stone. Emergency JJ stent placement and antibiotic therapy led to clinical improvement. One month later, ureteroscopy revealed absence of calculi and the presence of calcified polyps along the lumbar ureter, calyces, and bladder, suggestive of urinary schistosomiasis. Biopsies confirmed the parasitic etiology, and treatment with praziquantel was initiated. This case highlights the importance of considering calcified ureteral polyps in endemic regions to avoid misdiagnosis and guide appropriate management.

Keywords: Urinary schistosomiasis; Schistosoma haematobium; ureteral polyp; calcification; obstructive pyelonephritis; case report.

INTRODUCTION

Urinary schistosomiasis (Schistosoma haematobium) affects more than 112 to 120 million people (WHO 2022). It causes a variety of urinary tract lesions, including granulomas, polyps, fibrosis, calcifications, and strictures. Ureteral involvement occurs in 8–18% of cases according to Egyptian studies (Saleh 2014), but calcified ureteral polyps remain rare, estimated at 0.5–1.4% of complications (El-Baz 2003; N'Guessan 2010). Their pseudolithiasis-like presentation is a frequent source of diagnostic errors.

CASE REPORT

A 72-year-old female patient with a 15-year history of hypertension was admitted for acute obstructive pyelonephritis on the left side.

Abdominal-pelvic CT scan: severe ureterohydronephrosis proximal to a hyperdense lesion (9 × 8 mm, 788 HU) in the lumbar ureter, suggestive of an impacted stone.

Initial management: emergency placement of a JJ stent + appropriate antibiotic therapy.

Course: clinical and laboratory improvement.

A ureteroscopy, performed one month later to assess fragmentation of the presumed stone, revealed:

- Absence of calculi
- Presence of calcified polyps along the lumbar ureter, calyceal cavities, and bladder
- Endoscopic findings suggestive of urinary schistosomiasis
- Biopsies were performed, confirming the parasitic etiology. Treatment with praziquantel was initiated.

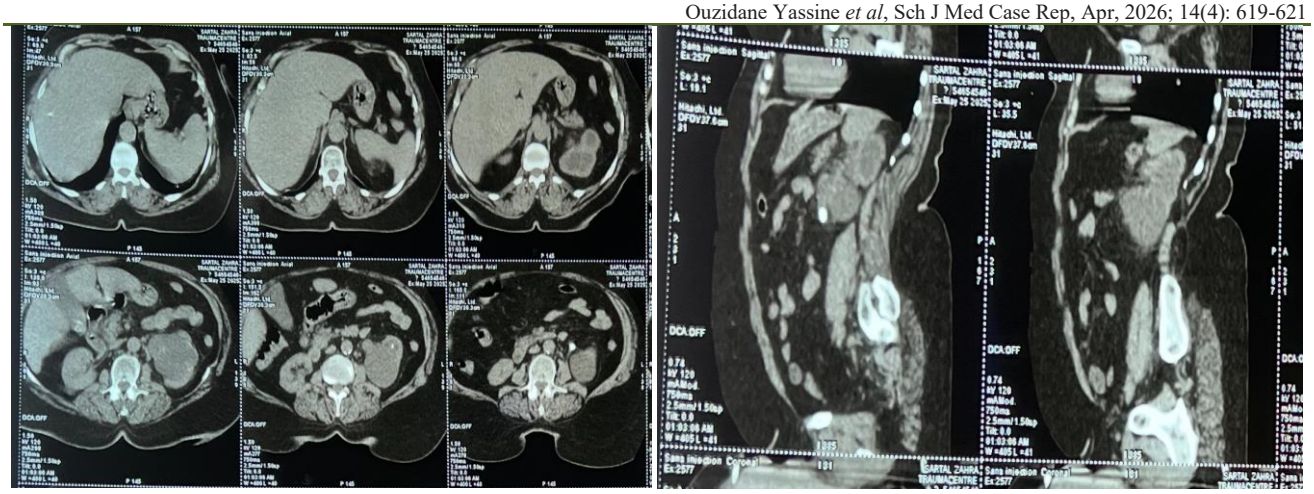

Figure 1: CT scan showing ureterohydronephrosis due to a left lumbar stone

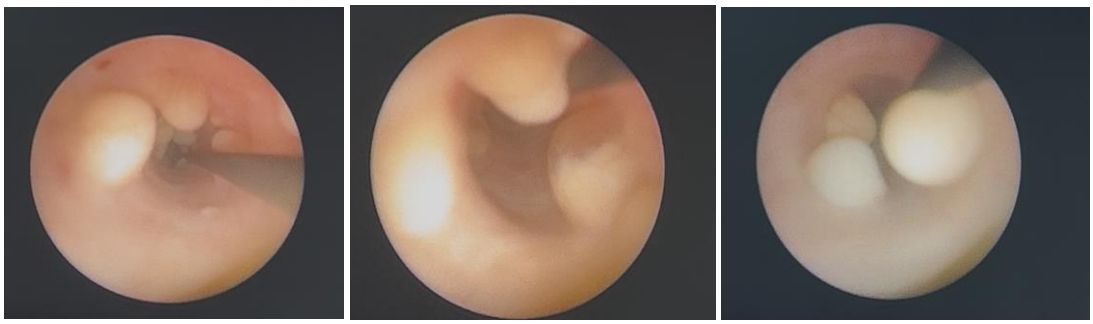

Figure 2: Bilharzia-associated ureteral polyps: endoscopic view

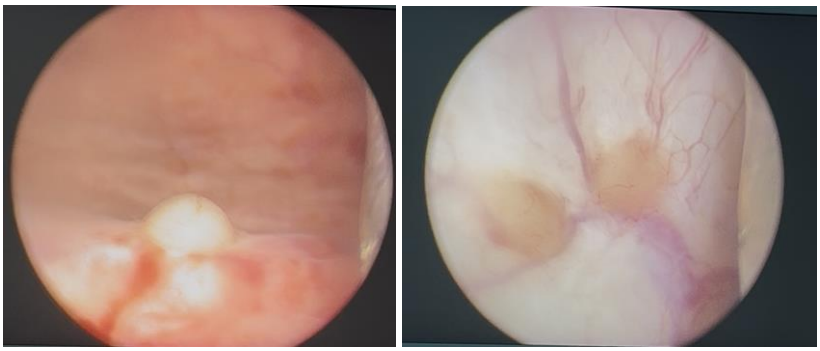

Figure 3: Bladder polyps: endoscopic view

DISCUSION

Prevalence and Pathophysiology

Urinary schistosomiasis causes a granulomatous inflammatory reaction around the eggs, leading to polyps and calcifications. El-Baz (2003) estimates that 0.6% of patients with schistosomiasis develop calcified ureteral polyps, which often go undiagnosed. N'Guessan (2010) reports a higher prevalence, 1.4%, in highly endemic regions.

Diagnosis: Imaging versus Endoscopy

CT scans can be misleading: in the study by N'Guessan *et al.,* (2010), 50% of calcified schistosomal polyps were mistakenly interpreted as stones. Salem (2015) confirms that calcified polyps reach a density greater than 700 HU, which explains the confusion with a ureteral stone.

In our case, the hyperdense lesion (788 HU) suggested an impacted stone, leading to urgent drainage.

Confirmation of the diagnosis relies on:

- ureteroscopy (visualization of whitish, irregular, calcified polyps)
- biopsies (granulomas containing Schistosoma haematobium eggs)
- Comparison with the literature

El-Baz (2003): series of 18 schistosomiasis-related ureteral polyps, all initially considered to Be stones.

N'Guessan (2010): 12 cases, 6 of which (50%) were mistaken for stones.

Salem (2015): typical endoscopic appearance: whitish polyps, sometimes pedunculated, containing calcifications.

Seydou (2018): recurrence in 22% of cases despite praziquantel, requiring endoscopic surveillance.

Long-term risks and cancer

Chronic schistosomiasis increases the risk of squamous cell carcinoma of the bladder, estimated at between 1% and 7%, and up to 10% in certain hyperendemic areas (WHO). The persistence of calcified ureteral polyps therefore requires:

- endoscopic monitoring,
- regular imaging,
- screening for malignant degeneration.

Features of our case

Advanced age (rare: most series report a mean age between 20 and 50 years).

Misleading presentation mimicking urolithiasis at 788 HU.

Multifocal involvement: ureter, calyces, and bladder.

Rapid improvement after drainage, but endoscopic diagnosis is necessary.

CONCLUSION

Urinary schistosomiasis should always be considered when calcified ureteral lesions are observed in endemic areas. Calcified polyps can easily mimic urolithiasis, as demonstrated by this case. Diagnosis relies on ureteroscopy and biopsy. Treatment involves praziquantel, removal of obstructive lesions, and long-term follow-up due to the increased risk of carcinoma.

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