CASE REPORT

Fibroepithelial ureteral polyps presenting as ureteropelvic obstruction

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SUMMARY

A 57-year-old woman presented with bilateral abdominal pain and flank discomfort. Imaging studies, consisting of CT scan, diethylene triamine pentaacetic acid renal scan with Lasix and a retrograde pyelogram, indicated an obstruction at the ureteropelvic junction (UPJ), possibly due to fibroepithelial polyps within the ureter. A robotic pyeloplasty revealed a ureteral diverticulum and a thin, still-attached fibroepithelial polyp of approximately 2 cm in length. The patient tolerated the procedure well and was discharged one day postpyeloplasty with no reported complications. This rare clinical scenario should be considered when formulating a diagnosis for a UPJ obstruction.

BACKGROUND

Modern innovations and advancements in medical imaging techniques have significantly improved the diagnostic and therapeutic management of ureteropelvic junction (UPJ) obstructions. This condition typically causes impairment in urinary transport from the pelvis to the ureter due to congenital ureteral malformation or crossing vessels.¹ Indications that trigger intervention typically include a decrease in overall renal function, stone development or the onset of infection, and other clinical symptoms associated with UPJ obstruction (eg, abdominal pain, haematuria, dysuria and flank discomfort).

UPJ obstruction can be stratified into primary and secondary obstructions. Primary obstructions can also be further subdivided to include either intrinsic (attributed to a poorly developed extracellular matrix and circular musculature, fetal convolutions, ureteral polyps and vascular mucosal folds) or extrinsic cases, such as a lower pole crossing vessel. In contrast, secondary obstructions generally arise from stone disease or a vesicoureteral reflux that gives way to imperfections to the ureter structure.² Nonetheless, while the aetiology for a UPJ obstruction can be diverse, the most common causes are a congenitally narrowed UPJ, urinary stones or crossing vessels.³

Although uncommon, UPJ obstruction can also arise due to fibroepithelial polyps found anywhere between the renal pelvis and urethra. Berger *et al*⁴ was the first to describe such an instance in a clinical setting. Here, we present a case report of a 57-year-old woman who was diagnosed with a UPJ obstruction secondary to a ureteral polyp. This case adds valuable insight to this rare entity and underscores the importance of considering ureteral

polyps when formulating a differential diagnosis for a UPJ obstruction.

CASE PRESENTATION

A 57-year-old, Caucasian woman with a medical history of mild chronic obstructive pulmonary disorder and brain meningioma initially presented to the emergency room with left abdominal pain and flank discomfort. A CT scan of the abdomen and pelvis with intravenous contrast showed left-sided moderate-to-severe hydronephrosis with a perirenal fluid collection, likely due to a ruptured fornix. The ureter was not dilated, but the most proximal portion of the ureter showed some thickening with a mild degree of enhancement. No specific filling defects were seen. The clinical report suggested that this could be related to an inflammatory or infectious process, but urothelial carcinoma could not be ruled out.

INVESTIGATIONS

A DTPA renal scan with Lasix revealed a T_{1/2} on the left side equal to 48 min in comparison to 6.5 min on the right side. Split renal function was 54% (left) and 46% (right). A retrograde pyelogram revealed a smooth, round, persistent filling defect (3 mm; [figure 1](#)) and several small diverticuli in her mid and proximal ureter. Ureteroscopy showed multiple, small ureteral polyps, some of which were located at the UPJ ([figure 2](#)) and the small ecstatic areas consistent with ureteral diverticuli. A biopsy was not performed as endoscopically the polyps appeared classically benign and cytology was negative. Intraoperatively, an outpouching on the anterior proximal ureter was visualised, corresponding with the endoscopic finding of a ureteral diverticulum. When the renal pelvis was opened anteriorly at the UPJ junction, a thin, long fibroepithelial polyp of about 2–3 cm appeared from the ureterotomy. Final pathology revealed a 1.2 cm fibroepithelial polyp associated with chronic ureteritis and a diverticular outpouching in the resected ureter.

Figure 1 Retrograde pyelography reveals a filling defect at the level of the ureteropelvic junction (arrow).

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Figure 2 The endoscopic appearance of the fibroepithelial polyp at the ureteropelvic junction.

TREATMENT

Based upon establishing the presence of multiple polyps and ureteral diverticuli, the patient underwent an Anderson-Hynes dismembered robotic pyeloplasty and excision of the abnormal proximal ureter.

OUTCOME AND FOLLOW-UP

The patient tolerated the procedure well and was discharged one day postpyeloplasty with no complications.

At 3 months follow-up, a renal scan showed resolution of the obstruction with a T½ of 6 min. Her plasma creatinine was 0.8 mg/mL. She reported mild chronic lower bilateral back pain, but no Costo vertebral angle tenderness (CVAT) and no signs of renal flank pain.

DISCUSSION

Fibroepithelial polyps are generally smooth, elongated benign tumours that grow to 1–5 cm in length. These finger-like projections are most commonly found in adults aged 20–40 years, with a smaller number of cases observed in paediatric patients. While haematuria is the most commonly observed symptom associated with this condition, patients also present with pain.^{5 6}

Although UPJ obstructions are common clinical occurrences observed by urologists, they are seldom attributed to ureteral polyps. In fact, only 236 cases of fibroepithelial polyps have been reported in medical literature since 1932.⁷ Nonetheless, their ability to grow large enough to impair urinary transport from the renal pelvis to the ureter is exceedingly rare. With this said, close radiographic examination plays an increasingly important role in guiding surgical management and generating a conclusive diagnosis. Traditionally, a retrograde pyelogram has

been helpful in delineating intraluminal lesions and better characterising ureteral polyps. Further, CT imaging can help reveal hydronephrosis and filling defects within the ureter, a common feature of ureteral polyps given their slow growth rate.⁶ Lasix renograms serve to quantify renal function and the degree of obstruction.

While a common treatment for obstructing ureteral polyps at the UPJ is an open Anderson-Hynes dismembered pyeloplasty, Lam *et al*⁸ discussed the ability to manage fibroepithelial polyps via retrograde ureteroscopy or holmium laser excision. Although success rates have not yet proven to be comparable to those found with an open, laparoscopic or robotic pyeloplasty, endourological approaches have been demonstrated to have excellent postoperative recovery and reduced hospital stays.¹ In this current report, we illustrate the safety and effectiveness of robotic pyeloplasty in a patient with UPJ obstruction due to benign fibroepithelial ureteral polyps. This surgical modality offers refined intraoperative visualisation, complete resection of polyps, minimal blood loss and an expedited recovery time.

Learning points

- ▶ Ureteropelvic obstruction attributed to fibroepithelial ureteral tumours is a clinical rarity.
- ▶ Most primary ureteral tumours are non-epithelial in origin and originate within the mesoderm.
- ▶ Since they are difficult to identify preoperatively, ureteral polyps should be considered when formulating a diagnosis of a ureteropelvic obstruction.

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REFERENCES

- 1 Wein AJ, Kavoussi LR, Novick AC, *et al.*. *Campbell-Walsh urology*. 10th edn. Elsevier Health Sciences, 2011:1122–42.
- 2 Shive ML, Baskin LS, Harris CR, *et al.* Ureteral fibroepithelial polyp causing urinary obstruction. *J Radiol Case Rep* 2012;6:23–8.
- 3 Liddell RM, Weinberger E, Schofield DE, *et al.* Fibroepithelial polyp of the ureter in a child. *AJR Am J Roentgenol* 1991;157:1273–4.
- 4 Berger RM, Lebowitz JM, Carroll PA. Ureteral polyps presenting as ureteropelvic junction obstruction in children. *J Urol* 1982;128:805–7.
- 5 Harvin HJ. Ureteral fibroepithelial polyp on MDCT urography. *AJR Am J Roentgenol* 2006;187:W434–5.
- 6 Bian Z, Liu X, Hua Y, *et al.* Laparoscopic management of multiple ureteral polyps in children. *J Urol* 2011;186:1444–9.
- 7 Melicow MM, Findlay HV. Primary benign tumors of ureter: review of literature and report of case. *Surg Gynecol Obstet* 1932;54:680–9.
- 8 Lam JS, Bingham JB, Gupta M. Endoscopic treatment of fibroepithelial polyps of the renal pelvis and ureter. *Urology* 2003;62:810–3.

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