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Ureteral fibroepithelial polyp: A case report

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ABSTRACT

Ureteral fibroepithelial polyps are rare, accounting for approximately 2–6% of all ureteral tumors. They can be diagnosed by ultrasonography, computed tomography, and retrograde pyelography; however, diagnosis can be difficult. Management is by resection of the polyp, and endoscopic resection is the standard treatment. Partial ureteral resection and ureteral reconstruction may be necessary depending on the size and location of the polyp. Imaging follow-ups for approximately a year post-surgery are recommended. This clinical case report aimed to highlight a case of a fibroepithelial ureteral polyp that was managed by endoscopic resection.

1. Introduction

Ureteral fibroepithelial polyp (UFP) is a benign tumor of non-epithelial mesodermal origin and accounts for 2–6% of all ureteral tumors.[1] These are usually reported in adults 20–50 years of age, but may also occur in children. Previously, polyps were often difficult to distinguish from malignant tumors, and there have been reports of total nephroureterectomy for malignant tumors. There are no guidelines for the diagnosis or treatment of UFP, and there is no standardized approach to the postoperative follow-up. Here, we report a case of a fibroepithelial ureteral polyp that was resected endoscopically.

2. Case presentation

A 44-year-old man was diagnosed with gross hematuria in March 2021. No obvious source of bleeding was identified by computed tomography (CT), but cystoscopy revealed hematuria emanating from the left ureteral opening. CT urography revealed a contrast-enhanced defective area of approximately 20 mm in the left ureter (Fig. 1). Urine cytology results were negative. Ureteroscopy revealed a mass in the left ureter. The tumor was resected using a laser (Fig. 2), and no malignant findings were found via a biopsy of the mass. After removal of the resected polyp, tissue biopsy of the resected root confirmed normal urethral tissues. Histopathological examination of the excised mass revealed a fibroepithelial ureteral polyp (Fig. 3). The patient was discharged from the hospital on postoperative day 3, and the ureteral stent was removed on postoperative day 14. Three months postoperatively, the patient had no apparent complications, including recurrence of the mass.

3. Discussion

UFP has been reported to be more common in males (92%) and in the left ureter (67%) in pediatric cases.[2,3] Causes of UFP include chronic irritation due to allergy, trauma, stones, or infection, and in pediatric cases, hormonal abnormalities and congenital diseases with developmental disorders of the mesoderm.[2]

Reports showed that 58% of patients had gross hematuria, 79% had intermittent abdominal pain associated with hydronephrosis, and 20.8% had ureteral stones.[4] Differential diagnosis includes kidney stones, thrombus, malignancy, inflammatory changes, and foreign bodies. However, polyps may not always be visualized by imaging and thus are difficult to diagnose preoperatively. In pediatric cases of UFPs, 4/15 (26%) had typical filling defects on voiding urography and 6/15 (40%) on contrast-enhanced CT.[5] In this case, the shade of polyps on contrast-enhanced CT was faint, and the lesions in the ureter could be visualized only by adjusting the contrast of the images. It may be possible to reduce the number of lesions overlooked by devising methods to evaluate the images.

The histological diagnosis of UFPs is often made using endoscopic biopsy. Histologically, the tissue is predominantly fibrous with edema and prominent vasculature, and the surface is covered with normal to hyperplastic, thinned transitional epithelium.

On endoscopy, UFP typically has a smooth surface, whereas malignant tumors have an irregular surface with papillary changes, making it relatively easy to differentiate between benign and malignant masses on

Abbreviations: UFP, Ureteral fibroepithelial polyps.

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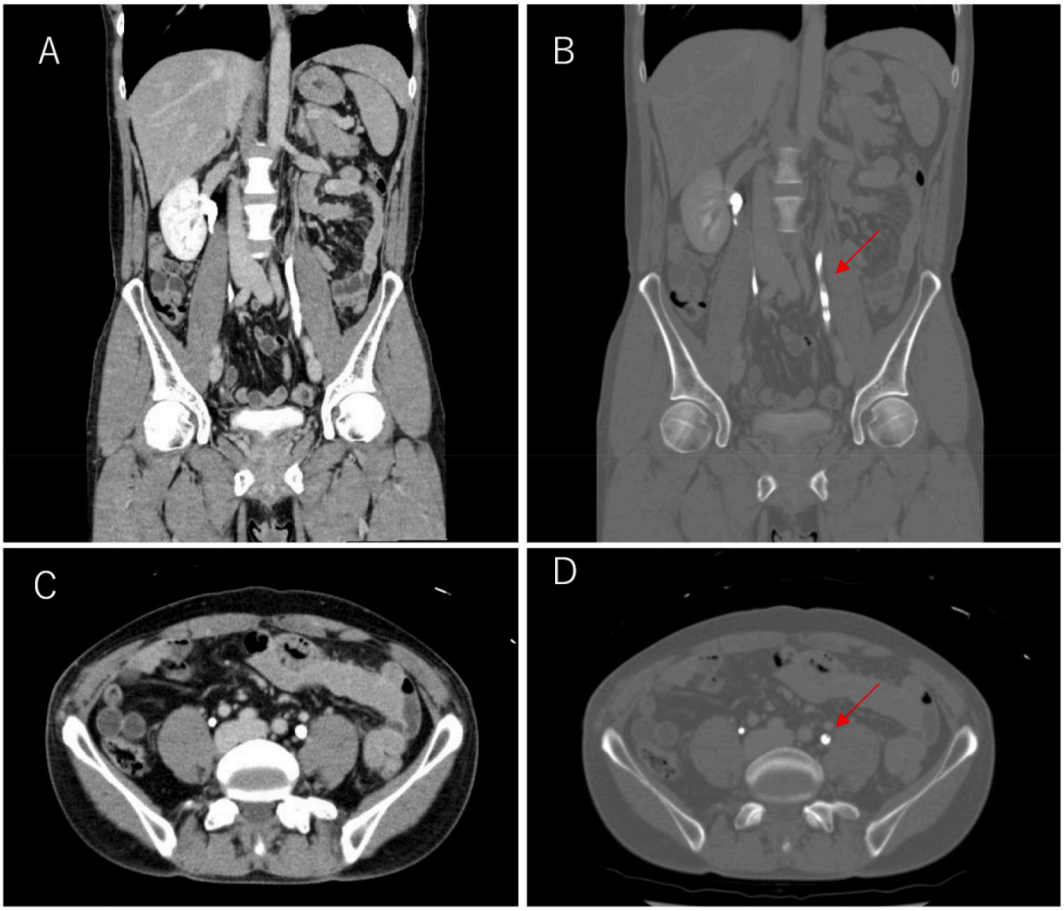

Fig. 1. Contrast-enhanced computed tomography (CT) findings. The shadow-deficit area in the left ureter cannot be visualized by CT urography, but it can be visualized after adjusting the contrast (A, B) Coronal sections. (C, D) Axial sections.

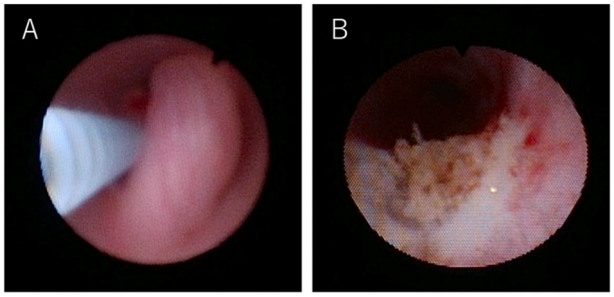

Fig. 2. Endoscopic Findings. (A) The mass in the ureter had a smooth surface and was stalked. (B) Laser resection was performed.

gross examination.

Some researchers believe that preoperative tissue biopsy is not necessary for UFP because it is easy to diagnose grossly. However, some cases of UFP have been reported to be associated with urothelial carcinoma,[2] some of which may include intralesional urothelial carcinoma, which is difficult to differentiate based on gross findings. Therefore, in this case, a tissue biopsy was performed intraoperatively to confirm that there were no malignant findings before resection of the polyps. We believe that it is necessary to consider the experience of each institution and preoperative tissue diagnosis in each case.

Treatment of UFPs involves resection of the mass. Endoscopic resection is the standard, and partial ureteral resection and ureteral reconstruction are necessary in cases where endoscopic resection is difficult. Tumor diameter and location are helpful in determining treatment options. A large tumor, located proximal to the ureter, is difficult to resect endoscopically, and a partial ureteral resection may be the treatment of choice. However, tumor size may not limit the choice of treatment, as there are reports of endoscopic resection of tumors up to 17 cm in diameter.[2] Total nephroureteral resection was performed in approximately 20% patients before 1980.[2] After 2005, endoscopic resection was the procedure of choice in 67% of all cases of UFP, and imaging follow-ups at 3 and 12 months postoperatively are recommended.[2]

4. Conclusion

UFP is a rare disease with no established method for its treatment or postoperative follow-up. Although diagnosis using imaging studies is often difficult, their characteristic morphology makes them relatively easy to diagnose by endoscopy. Endoscopic resection is the standard treatment, but in cases that are difficult to treat endoscopically, partial ureteral resection and ureteral reconstruction may be necessary. In this case, we were able to safely excise the polyp by endoscopic resection.

Informed consent

The patient consents to publication of this case report and written permission has been obtained from the patient.

Conflicts of interest

The authors declare no conflict of interest.

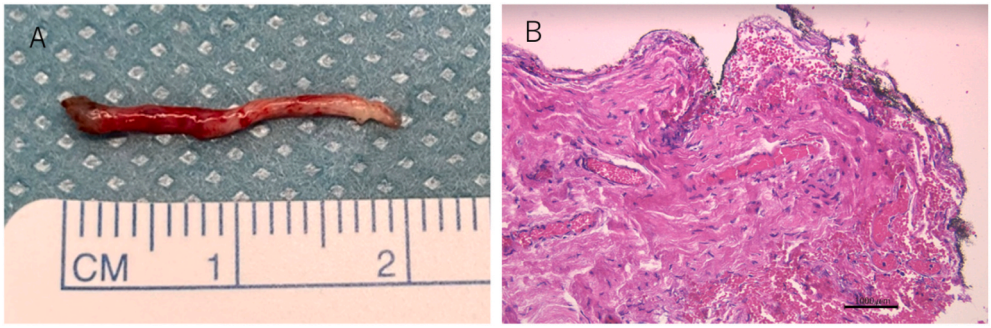

Fig. 3. Excised specimens and histopathological findings. (A) The mass was rod-shaped and ~2 cm long. (B) The tissue was predominantly rich in fibrous components. There were no obvious malignant findings.

Acknowledgments

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