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Radiology

Obstructive Fibroepithelial Polyp Mimicking a Tumor in a 3-Year-Old Child

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Abstract **Case Report**

In this article we discusse the case of a 3-year-old child diagnosed with a fibroepithelial polyp of the bladder, a rare benign lesion typically found in infants and children. The child presented with hematuria, suprapubic pain, and dysuria, and an ultrasound revealed a tumor-like vesical process obstructing the left ureteral meatus and causing moderate ipsilateral hydronephrosis. The presence of vascularity on color Doppler raised concerns of a malignancy such as vesical rhabdomyosarcoma or inflammatory pseudotumor. Diagnostic and therapeutic cystoscopy revealed a left ureteral polyp, and complete resection was performed. The pathological examination suggested an inflammatory pseudopolyp, and the patient's outcome was positive. The article discusses the rarity of this condition in children, its clinical symptoms, diagnosis, and management.

Keywords: Fibroepithelial polyp, Bladder, Pediatric, Ultrasound.

INTRODUCTION

The fibroepithelial polyp of the bladder is a very rare benign lesion, diagnosed mainly in the pediatric population (Williams *et al.*, 2002). This lesion is generally discovered in infants and children and has rarely been reported in adults (Tsuzuki & Epstein, 2005). Its occurrence in the pelvic ureter or bladder is extremely rare, especially in children, with only a few cases reported in the literature.

The clinical presentation commonly includes hematuria, dysuria, urinary tract infections, and obstruction, which can progress to urinary retention with supra pubic pain (Natsheh *et al.*, 2008a). Diagnosis is usually made through imaging and endoscopic studies (Barzilai *et al.*, 1996), although in some cases, the diagnosis at this stage may suggest malignancy and is not sufficient to establish a definitive diagnosis.

We present a case report of a benign epithelial polyp of the bladder in a child presenting with hematuria and ultimately managed with a transurethral intervention.

OBSERVATION

The patient is a 3-year-old child from a non-consanguineous marriage and the younger of two brothers, who has been properly vaccinated according to the national vaccination program. The child had two episodes of urinary tract infection, which were successfully treated with antibiotics and had negative urine culture tests after treatment. The child has been experiencing occasional suprapubic pain and dysuria for the past 2 months, which was complicated by the onset of low-grade terminal hematuria, prompting a visit to the pediatric emergency department.

At admission, the child was stable hemodynamically, with normal conjunctiva color, heart and respiratory rates, and blood pressure. On examination, there was tenderness on palpation of the suprapubic area, without other associated signs such as bladder distension or inguinal lymphadenopathy. A urinalysis showed hematuria with three crosses of blood, one cross of leukocytes, and negative proteinuria. A laboratory workup including a complete blood count, C-reactive protein, and serum electrolytes was normal, and a urine culture was sterile.

An ultrasound was requested to investigate the probable cause of hematuria. The ultrasound examination was performed with a full bladder and showed a partially filled bladder with finely echogenic content, with irregular thickening of the posterior wall and an oval-shaped nodular process visible near the left ureteral meatus, with irregular contours, measuring 8x7mm **(Figure 1)**, and vascularized on color Doppler **(Figure 2)**. The contralateral kidney was normal in size, while the ipsilateral kidney showed moderate hydronephrosis with good corticomedullary differentiation **(Figure 3)**. A bladder tumor-like process obstructing the left ureteral meatus was diagnosed, which could potentially be rhabdomyosarcoma or an inflammatory pseudotumor due to their frequency in children and the vascularization seen on color Doppler. To avoid delaying treatment, a diagnostic and therapeutic cystoscopy was performed, which revealed a left ureteral polyp measuring 12x6x3mm, with minimal thickening of the bladder wall nearby. Complete resection was performed, and histological examination showed a slightly immature, unevenly thickened epithelium without atypical features or signs of malignancy, suggesting an inflammatory pseudo-polyp. Follow-up ultrasounds at 3, 6, and 12 months after resection showed no anomalies, with minimal left hydronephrosis persisting.

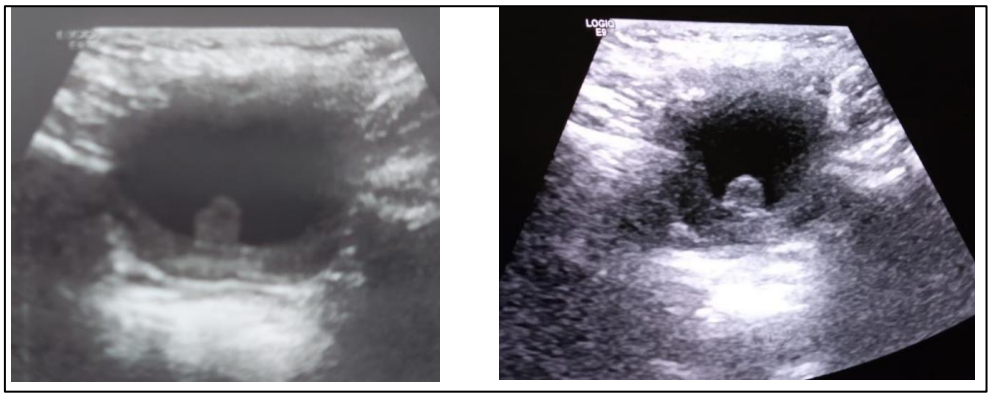

Figure 1: Vesical tumor, nodular with lobulated borders, and corresponding wall thickening.

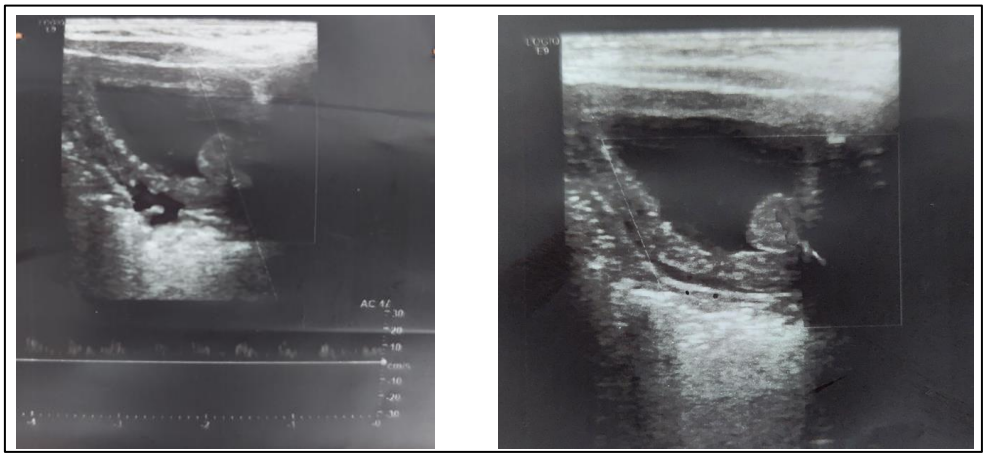

Figure 2: Vesical tumor process, nodular with lobulated contours and color Doppler vascularization

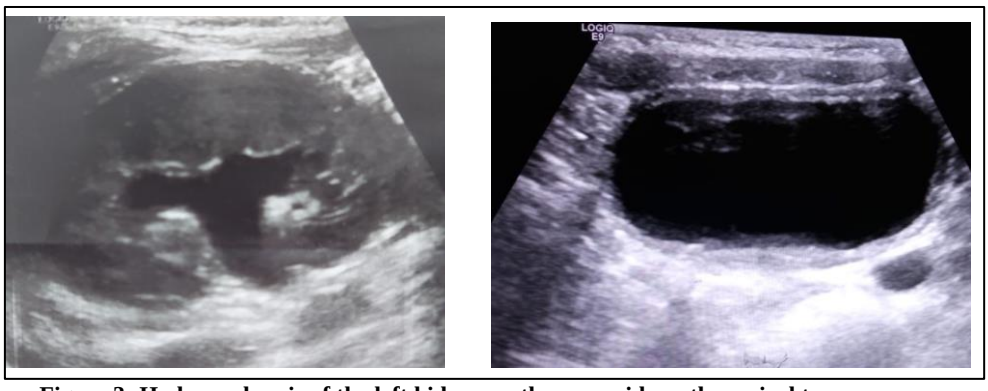

Figure 3: Hydronephrosis of the left kidney on the same side as the vesical tumor process

DISCUSSION

The pseudo-inflammatory polyp of the lower urinary tract is a rare lesion in children, with only a few cases reported in the literature (Demircan *et al.*, 2006). They are mainly located in the ureter, urethra, and renal pelvis, and are exceptional in the bladder. They are more common in adult men and rare in children (Patel *et al.*, 2014). The pathophysiology remains uncertain, with theories ranging from a reactive process secondary to urothelial irritation caused by infection or inflammation to benign neoplasms developing in the urinary tract (Agarwal *et al.*, 2018)

The main clinical symptoms are generally manifested by hematuria, which is the major symptom, dysuria, and obstruction with urine retention in certain forms. The diagnosis of the polypoid lesion is easily made by ultrasound and confirmed by cystoscopy (Natsheh *et al.*, 2008b).

Ultrasound allows visualization of the lesion and specifies its location, vascular nature or not, and searches for any impact on the upper urinary tract. Cystoscopy remains the key examination for diagnosis as it allows the detection of the lesion and the therapeutic modality of treatment. The definitive diagnosis is based on the histopathological report, which confirms the benign nature of the lesion and rules out rhabdomyosarcoma of the bladder or an inflammatory pseudotumor that must be considered in any child presenting with hematuria (Al-Ahmadie *et al.*, 2003)

Our case supports this hypothesis, with the major symptom being hematuria, and ultrasound allowed for the visualization of the etiology and specification of its impact, which was minimal hydronephrosis of the left kidney. The vascular nature detected by color Doppler was an alarming sign that led to considering malignant etiologies and delayed the management by performing a bladder MRI to characterize the lesion. Cystoscopy was the preferred diagnostic modality to better visualize and treat the lesion. Given all the advantages of minimally invasive surgery, endoscopic treatment remains the first approach even in the case of a giant polyp in children (Natsheh *et al.*, 2008a). Ultrasound appears to be a good tool for monitoring these patients. Our patient did not present any clinical or ultrasound signs suggesting recurrence. However, some authors suggest that MRI should be considered for surveillance in certain cases of doubt to avoid the risks of anesthesia in children (Bellin *et al.*, 2002).

CONCLUSION

Inflammatory pseudopolyp of the bladder is a very rare condition in children. It can pose a diagnostic problem with bladder rhabdomyosarcoma, which remains the most frequent and feared lesion. The principal exam for diagnosis and post-therapeutic surveillance is ultrasound, but histopathology still provides the definitive, conclusive diagnosis.

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