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Pediatric Bladder Polyps Causing Recurrent Hematuria and Dysuria

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Description

Pediatric bladder polyps are rare benign lesions of the lower urinary tract that can present with a variety of urinary symptoms, most notably recurrent hematuria and dysuria. These symptoms are often alarming to parents and can lead to extensive investigations before a definitive diagnosis is reached.

Bladder polyps in children are significantly less common than in adults and are often misdiagnosed or overlooked due to their rarity and nonspecific presentation. Awareness of this condition among pediatricians, urologists, and radiologists is essential to ensure timely diagnosis and appropriate management.

The etiology of bladder polyps in children is not fully understood, but several hypotheses have been proposed. One widely accepted theory is that chronic irritation or inflammation of the bladder mucosa, such as from infections, catheterization, or underlying congenital anomalies, can lead to reactive epithelial proliferation and polyp formation. Other theories suggest a developmental origin, with polyps arising

from embryological remnants or abnormal tissue differentiation. Despite their uncertain origin, these lesions are typically non-neoplastic and do not carry malignant potential, although histological examination is always warranted to confirm benign pathology.

The clinical presentation of pediatric bladder polyps is often characterized by recurrent episodes of painless or painful gross hematuria, which may be intermittent. Microscopic hematuria may also be detected incidentally during routine urinalysis. Dysuria, or painful urination, is another common symptom, likely resulting from local irritation of the bladder mucosa or partial obstruction by a polyp located near the bladder neck or urethra. In some cases, children may present with urinary frequency, urgency, or even retention if the polyp intermittently obstructs the bladder outlet. In younger children who are not toilet trained, symptoms may be less specific, including foul-smelling urine, irritability, or diaper staining with blood.

Ultrasound of the kidneys and bladder is the preferred initial imaging modality in pediatric patients due to its safety and non-invasiveness. In cases of bladder polyps, ultrasonography may reveal an echogenic mass within the bladder lumen, sometimes pedunculated and mobile with bladder filling and voiding. However, small or flat lesions may be missed, and additional imaging may be required. Voiding Cystourethrogram (VCUG) may be indicated if vesicoureteral reflux or posterior urethral valves are suspected based on the clinical picture. Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) is rarely used in pediatric cases but may be considered in complex or atypical presentations.

Definitive diagnosis is established through cystoscopy, which allows direct visualization of the bladder mucosa and any intraluminal lesions. Under general anesthesia, a small rigid or flexible cystoscope is introduced into the bladder, allowing for complete inspection. Polyps may appear as solitary or multiple masses, usually pedunculated or sessile, arising from the bladder wall, commonly near the trigone or lateral walls. They are typically smooth, reddish, and vascular in appearance. Once identified, biopsy or complete transurethral resection of the polyp is performed both for diagnostic and therapeutic purposes. Histopathology remains the gold standard for confirming the diagnosis and ruling out malignancy or other differential diagnoses, such as rhabdomyosarcoma, which must be considered in pediatric patients with bladder masses.

The management of pediatric bladder polyps involves complete endoscopic excision, which is typically curative. Transurethral resection or snare excision is performed during cystoscopy, with care taken to minimize trauma to the bladder wall. Postoperatively, children are monitored for hematuria, infection, and urinary retention. A short course of antibiotics may be prescribed to reduce the risk of infection, particularly if the procedure was extensive. Pain management

is generally minimal, and most children recover uneventfully. Differential diagnoses to consider in children presenting with recurrent hematuria and dysuria include urinary tract infections, urolithiasis, trauma, urethral polyps, tumors such as rhabdomyosarcoma, and structural abnormalities like ureteroceles or bladder diverticula. Urethral polyps, although similar in pathology, typically arise from the posterior urethra and may cause intermittent obstruction and hematuria. Distinguishing between these conditions is critical, as the management and prognosis vary significantly.

Conclusion

UPediatric bladder polyps are an uncommon but important cause of recurrent hematuria and dysuria in children. Their clinical presentation can mimic more common urological conditions, leading to delays in diagnosis. Ultrasonography and cystoscopy play crucial roles in identifying and managing these lesions. With timely endoscopic resection, the prognosis is excellent, and recurrence is rare. Clinicians should maintain a high index of suspicion for bladder polyps in children with unexplained persistent lower urinary tract symptoms to ensure accurate diagnosis and effective treatment.