Pediatric penile pain secondary to idiopathic arterial thrombosis

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A B S T R A C T
Penile pain in the pediatric population can result from a variety of causes. Although urinary tract infection, urethral stricture and trauma are well-recognized etiologies, they are typically not identified. Most discomfort is therefore attributed to referred pain secondary to dysfunctional voiding behavior. Supporting this frequent conclusion is the often concomitant complaint by the family and patient of intermittent penile tumescence – itself typically the result of bladder over-distension. We present the first pediatric case of penile pain with intermittent penile tumescence secondary to arterial thrombosis and emphasize the critical need for a high index of suspicion in order to identify this unusual condition.

1. Case report

A fourteen-year-old Caucasian male presented with a seven-day history of penile pain and intermittent partial penile tumescence.

History was negative for perineal trauma. The exam was significant for discomfort out of proportion to any physical findings. Physical examination was otherwise negative. The patient was given the presumptive diagnosis of dysfunctional elimination as the cause for his symptoms and counseled to improve bladder and bowel emptying. Within 36 hours the patient contacted the physician complaining that pain had not improved. Doppler ultrasonography of the penis was obtained and revealed a hypoechoic, heterogeneous left corpora cavernosa and no flow in the left cavernosal artery. The contralateral cavernosal artery and corpus cavernosum were normal (Fig. 1). The patient was started on a daily dose of 81 mg aspirin and treated empirically with Tylenol #3 for pain. Blood was sent for hemoglobin electrophoresis, PT/PTT and complete blood count with platelets. All serological studies returned within normal limits and pain resolved within 3 days. A follow up Doppler penile ultrasound performed 2 weeks later demonstrated complete resolution of the abnormal findings in the left corpora cavernosum and normal flow in the left cavernosal artery (Fig. 2). The child is now 20 years of age and reports normal erectile function and sensation.

2. Discussion

Pediatric penile pain is a common complaint encountered in pediatric urology. Common etiologies include urinary tract infection, meatal stenosis, trauma or referred pain secondary to bladder or bowel over-distension. Urinalysis, history and physical examination quickly determine whether the first three etiologies exist. In their absence it is common practice to manage these children expectantly with the assumption that symptoms are secondary to dysfunctional voiding behavior. In addition, retentive voiding...
behavior is the most common cause of penile tumescence in the pediatric population. The present case highlights the risk of empirically making the assumption that intermittent partial penile tumescence combined with penile pain is secondary to voiding dysfunction.

We report the first case of penile pain secondary to segmental penile arterial thrombosis in the pediatric population. All reports of penile thrombosis to date have been in adults [1–3]. Possible etiologies include trauma, sickle cell anemia and thalassemia [2]. Most have been diagnosed using MRI although Doppler ultrasound appears to be a highly sensitive and far less expensive modality [3,4]. Initial management should consist of hydration, analgesics and aspirin [2]. In the adult population the majority of patients treated conservatively have maintained potency despite symptoms of up to 2 weeks duration. Patients who fail to resolve the thrombosis using conservative measures have been successfully treated with corporal exploration and creation of a corpus cavernosal-spongiosum shunt [4].

3. Conclusion

The etiologies of penile pain in the pediatric population are numerous and varied. When the typical structural and infectious causes have been excluded, dysfunctional elimination syndrome is the most common process responsible for this symptom. However, as the present case report emphasizes, failure to respond to conservative measures for improving voiding dysfunction (i.e. timed voiding and treatment of constipation) should lead the physician to consider the possible diagnosis of penile arterial thrombosis in order to avoid potential long term hypoxic consequences.

Conflict of interest

The authors have no real or perceived conflicts of interest in regards to the information contained in this manuscript.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal of request.

References