Video Article

Surgical Management of Meatal Stenosis with Meatoplasty

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Abstract

Meatal stenosis is a common urologic complication after circumcision. Children present to their primary care physicians with complaints of deviated urinary stream, difficult-to-aim, painful urination, and urinary frequency. Clinical exam reveals a pinpoint meatus and if the child is asked to urinate, he will usually have an upward, thin, occasionally forceful urinary stream with incomplete bladder emptying. The mainstay of management is meatoplasty (reconstruction of the distal urethra /meatus). This educational video will demonstrate how this is performed.

Video Link

The video component of this article can be found at https://www.jove.com/video/2213/

Protocol

Introduction:

Genital disorders are commonly encountered in the offices of primary care physicians. Meatal stenosis, an abnormal narrowing of the urethral opening (meatus) is a common complication after circumcision occurring in 9%-10% of males. This disorder is characterized by an upward deflected, difficult-to-aim urinary stream, dysuria, urgency, frequent, and prolonged urination. If left untreated, this can lead to urinary tract infections and kidney problems. Surgical meatotomy/meatoplasty is curative.

Treatment/Diagnostics Procedure:

A routine urine analysis will rule out urinary tract infection or diabetes as potential causes of urinary frequency.

Detailed history and physical exam, include observation of micturition, confirm the diagnosis.

Outpatient surgery/meatoplasty is curative. The procedure is done under a 5-10 minute anesthetic.

Intraoperative preparation includes surgical loupe magnification, mosquito hemostat, fine tipped plastic microsurgical scissors, Castroviejo needle holder, and 7-0 vicryl suture;

1. Child is placed in supine position.
2. Minimal skin prep and drape of the genitalia. No prophylactic antibiotics needed.
   - Betadine POVIDONE IODINE solution is used to scrub the genital region, and allowed to remain for approximately 3 minutes prior to initial incision.
   - The penis should be draped off with sterile towels.
3. A right handed surgeon will stand to the left side of the patient and one jaw of a well-lubricated mosquito hemostat is then introduced into the tip/ventral aspect of the urethral meatus to a depth of approximately 2-3 mm. The ventral tissue is then crushed by closing the hemostat. Total clamp time will be 60 seconds.
4. The crushed ventral tissue is incised sharply with microsurgical scissors (figure 1) and the inner urethral mucosa and glanular tissue are reapproximated using 7-0 vicryl sutures (Castroviejo needle holder figure 2) in an interrupted fashion.

Recovery time is minimal, and a child is sent home with Tylenol as needed for discomfort. Vaseline is applied to the wound 3-4x/day.

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Discussion

Outcome:

Symptomatic meatal stenosis is frustrating for the child and family. If left untreated, there is a potential for chronic incomplete bladder emptying, with occasional development of urinary tract infection and subsequent kidney damage.

Reconstructive meatoplasty is curative, and can be done under a brief anesthetic.

Conclusion:

Meatal stenosis is a common complication of circumcision. A thorough history and physical will reveal the diagnosis of meatal stenosis. Surgical management is the curative therapy. A well performed meatoplasty can be done with minimal instrumentation.

Disclosures

No conflicts of interest declared.

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