Meatal Stenosis

Background

Genital disorders are commonly encountered in the office of the primary care physician.[1] Meatal stenosis is a relatively common acquired condition occurring in 9-10% of males who are circumcised. This disorder is characterized by an upward deflected, difficult-to-aim urinary stream and, occasionally, dysuria and urgent, frequent, and prolonged urination. Surgical meatotomy is curative.

Pathophysiology

After circumcision, a child who is not toilet-trained persistently exposes the meatus to urine, resulting in inflammation (ammoniacal dermatitis) and mechanical trauma as the meatus rubs against a wet diaper. This causes the loss of the delicate epithelial lining of the distal urethra. This loss may result in adherence of the epithelial lining at the ventral side, leaving a pinpoint orifice at the tip of the glans. Because this condition is exceedingly rare in uncircumcised children, circumcision is believed to be the most important causative factor of meatal stenosis.

Another hypothetical cause is ischemia due to damage to the frenular artery during circumcision, resulting in poor blood supply to the meatus and subsequent stenosis. In a prospective study of circumcised boys, Van Howe found meatal stenosis in 24 of 239 (7.29%) children older than 3 years, making meatal stenosis the most common complication of circumcision.[2] As many as 1 in 5 boys who have undergone circumcision for balanitis xerotica obliterans (BXO; also referred to as lichen sclerosus) may require subsequent operative treatment of meatal pathology.[3]

Epidemiology

Frequency

International

Meatal stenosis affects 9%-10% of males who are circumcised.

Mortality/Morbidity

Meatal stenosis carries no risk of mortality.

Morbidity is limited to the clinical symptoms and complications of surgical repair, including bleeding, infection, and recurrence.

Race

Meatal stenosis has no racial predilection. The condition can occur in circumcised males independent of ethnicity.

Sex

Meatal stenosis occurs only in males.

Age

Children who are not toilet-trained are more prone to develop meatal stenosis after circumcision because of exposure of the meatus to urine in diapers. Most children who are toilet-trained can verbalize their difficulties during micturition to their caregivers.

Contributor Information and Disclosures

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