Phimosis and Paraphimosis

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Background

Phimosis refers to the inability to retract the distal foreskin over the glans penis. Physiologic phimosis occurs naturally in newborn males. Pathologic phimosis defines an inability to retract the foreskin after it was previously retractible or after puberty, usually secondary to distal scarring of the foreskin.

Paraphimosis is the entrapment of a retracted foreskin behind the coronal sulcus. Paraphimosis is a disease of uncircumcised or partially circumcised males.

Pathophysiology

The uncircumcised male penis comprises the penile shaft, the glans penis, the coronal sulcus, and the foreskin/prepuce, as shown below.

Anatomy of the penis.

Physiologic phimosis results from adhesions between the epithelial layers of the inner prepuce and glans. These adhesions spontaneously dissolve with intermittent foreskin retraction and erections, so that as males grow, physiologic phimosis resolves with age.

Poor hygiene and recurrent episodes of balanitis or balanoposthitis lead to scarring of preputial orifices, leading to pathologic phimosis. Forceful retraction of the foreskin leads to microtears at the preputial orifice that also leads to scarring and phimosis. Elderly persons are at risk of phimosis secondary to loss of skin elasticity and infrequent erections.

Patients with phimosis, both physiologic and pathologic, are at risk for developing paraphimosis when the foreskin is forcibly retracted past the glans and/or the patient or caretaker forgets to replace the foreskin after retraction. Penile piercings increase the risk of developing paraphimosis if pain and swelling prevent reduction of a retracted foreskin.

With time, impairment of venous and lymphatic flow to the glans leads to venous engorgement and worsening swelling. As the swelling progresses, arterial supply is compromised, leading to penile infarction/necrosis, gangrene, and eventually, autoamputation.

Epidemiology

Frequency

United States

Up to 10% of males will have physiologic phimosis at 3 years of age, and a larger percentage of children will have only partially retractible foreskins. One to five percent of males will have nonretractible foreskins by age 16 years.[1, 2]

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References


