

## THE MALE GENITAL TRACT

### Penis

The penis can be affected by congenital anomalies, inflammations, and tumors, inflammations and tumors being the most important.

#### Congenital Anomalies

The penis is involved by many congenital anomalies; only those that are clinically significant are discussed here.

##### *Hypospadias and Epispadias*

Malformation of the urethral groove and urethral canal may create an abnormal urethral opening either on the ventral surface of the penis (*hypospadias*) or on the dorsal surface (*epispadias*). Either of these two anomalies may be associated with failure of normal descent of the testes and with malformations of the urinary tract. Hypospadias, the more common of the two, occurs in approximately 1 in 300 live male births. Even when isolated, these urethral defects may have clinical significance, because the abnormal opening is often constricted, resulting in urinary tract obstruction and an increased risk of ascending urinary tract infections. When the orifices are situated near the base of the penis, normal ejaculation and insemination are hampered and may be a cause of sterility.

##### *Phimosis*

When the orifice of the prepuce is too small to permit its normal retraction, the condition is designated *phimosis*. An abnormally small orifice may result from anomalous development but is more frequently the result of repeated attacks of infection that cause scarring of the preputial ring. Phimosis is important because it interferes with cleanliness and permits the accumulation of secretions and detritus under the prepuce, favoring the development of secondary infections and possibly carcinoma.

#### Inflammation

Inflammations of the penis almost invariably involve the glans and prepuce and include a wide variety of specific and nonspecific infections. The specific infections—syphilis, gonorrhea, chancroid, granuloma inguinale, lymphopathia venerea, genital herpes—are sexually transmitted and are discussed in Chapter 8. Only the nonspecific infections causing so-called balanoposthitis are described here.

*Balanoposthitis* refers to infection of the glans and prepuce caused by a wide variety of organisms. Among the more common agents are *Candida albicans*, anaerobic bacteria, *Gardnerella*, and pyogenic bacteria. Most cases occur as a consequence of poor local hygiene in uncircumcised males, in whom the accumulation of desquamated epithelial cells, sweat, and debris, termed *smegma*, acts as local irritant. Persistence of such infections leads to inflammatory scarring and, as mentioned earlier, is a common cause of phimosis.

### Tumors

Tumors of the penis are, on the whole, uncommon. The most frequent neoplasms are carcinomas and a benign epithelial tumor, condyloma acuminatum. Benign proliferations of fibroblasts (Peyronie disease) are also worthy of brief mention.

#### *Benign Tumors*

##### Condyloma Acuminatum

Condyloma acuminatum is a benign sexually transmitted wart caused by human papillomavirus (HPV). It is related to the common wart and may occur on any moist mucocutaneous surface of the external genitals in either sex. HPV type 6, and less frequently type 11, are the most frequent agents that cause condylomata acuminata.

### MORPHOLOGY

Condylomata acuminata may occur on the external genitalia or perineal areas. On the penis these lesions occur most often about the coronal sulcus and inner surface of the prepuce. They consist of **single or multiple sessile or pedunculated, red papillary excrescences** that may be up to several millimeters in diameter (Fig. 21-15). Histologically, a branching, villous, papillary connective tissue stroma is covered by epithelium that may have considerable superficial hyperkeratosis and thickening of the underlying epidermis (**acanthosis**) (Fig. 21-16). The normal orderly maturation of the epithelial cells is preserved; dysplasia is not evident. Cytoplasmic vacuolization of the squamous cells (**koilocytosis**), characteristic of HPV infection, is noted in these lesions (Fig. 21-17). Condylomata acuminata tend to recur but only rarely progress into in situ or invasive cancers.



Figure 21-15 Condyloma acuminatum of the penis.