Epidermal and Urethroid Penile Cyst

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The authors describe a 74-year-old man who presented with a 2-cm nodule on the ventral face of the penis, showing histologically a cyst lined by both epidermal and urethroid epithelium. The authors discuss the various histological forms of raphe median cysts of the penis. ***Key words: Median raphe; Urethra; Penis.***

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Median raphe cysts result from an abnormal embryologic closure of the urethral groove (1). The cyst wall may derive from entodermal, ectodermal, or mucous glands which are a normal consitutent of the male urethra (2). We report a case of a median raphe cyst with both ecto- and entodermal lining.

CASE REPORT

A 74-year-old white man presented with an asymptomatic nodule on the ventral face of the penis just outside the

Fig. 1. Clinical aspect of the cyst on the ventral part of penis.

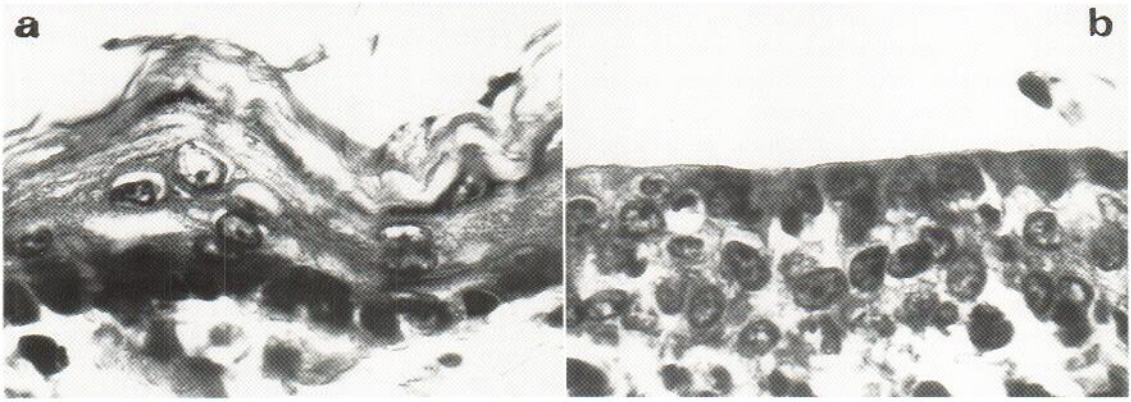

Fig. 2. Histological aspect of the cyst wall: epidermal (*a*), urethroid (*b*) (H & E, ×1000).

glans (Fig. 1). The patient reported that the lesion had grown progressively from childhood. No urological problems were noted by the patient, who was otherwise considered to be in good general health.

On examination, the nodule was 2 cm in diameter, freely movable within the dermis, flesh-coloured, and with a smooth surface. There was no keratin-filled punctum. Local inflammatory signs were absent. A surgical excision was performed.

Histological examination of tissue sections stained with hematoxylin-eosin showed under a normal epidermis a large unencapsulated cyst filled by horny material arranged in laminated layers and lined by a stratified epithelium. The structure of this epithelium ranged from epidermal to urethral, with a transitional part in between (Fig. 2). No mucus-secreting cells were found in the cyst wall.

DISCUSSION

During embryogenesis, a ventral depression forms the urethral tube. The median raphe results from the closure of the tube (1, 2). The urethral mucosa has an entodermal origin, except for its glans portion which originates from an ectodermal component. In the case of an abnormal ventral midline fusion of the median raphe, cysts and canals may form (3, 4). The cysts result from embryonic remnants at the site of closure of the urethral groove and may occur anywhere between the meatus and the anus (1, 5). Despite the absence of connection with the urinary tract, cysts developing along the median raphe have been thought to be the result either of a defective fusion of the edges of the urethral groove or of an anomalous development of ectopic periurethral glands (Littré's glands) (6). In the former explanation of its origin, the cyst has no attachment to the overlying epidermis and the cyst wall consists of a structure identical to urethral epithelium (urethroid epithelium) or of embryologic epithelial remnants. In the latter explanation, the cyst wall contains intraepithelial mucous glands which are a normal constituent of the male urethra (4).

Median raphe cysts do not communicate with the urethra as urethral diverticula do. These cysts have to be differentiated from true epidermal cysts, steatocystomas and apocrine cystadenomas, which are not related to a defective closure of median raphe. In our patient, the cyst wall was composed of epidermis, as found in epidermal cysts, and of urethroid epithelium, without any mucous glands. It may thus have resulted from the growth of congenitally buried epithelium at the site of a defective fusion of ectoderm and entoderm on the distal portion of the median raphe. This type of cyst is different from the urethroid cyst, as described by Paslin (7), formed exclusively by budding and separation of urethral epithelium without any epidermal component.

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