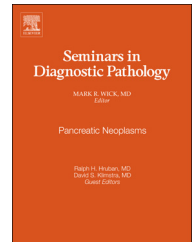


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# Clinicopathological features and histogenesis of penile cysts

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## ABSTRACT

Cysts arising in the penis are uncommon and can be found anywhere from the urethral meatus to the root of the penis involving glans, foreskin, or shaft. Median raphe cysts account for the majority of penile cystic lesions reported in the literature. As their name suggests, they arise on the ventral midline of the penis that extends from the urethral meatus to the scrotum and perineum. Proposed hypotheses for their origin as well as their diverse morphology are discussed.

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In pathology, “cyst” is the term used for lesions that consist of an epithelium-lined cavity that is filled by material that is generally fluid, mucinous, or semi-solid. Cysts can arise anywhere in the body and their epithelial lining varies according to the site and tissue they originate from.<sup>1</sup> Although cysts can have a bulky tumor-like appearance, the majority are completely benign non-neoplastic lesions. It should, however, be borne in mind that benign and malignant epithelial tumors arising at certain sites, like the ovaries and pancreas, frequently present as cystic masses.

Cysts arising in the penis are uncommon and can be found anywhere from the urethral meatus to the root of the penis involving glans, foreskin, or shaft.<sup>2–6</sup> Single cases and case series of these lesions have been reported by authors that described and classified them according to their histological features, location and possible pathogenesis.

## Median raphe cysts

Median raphe cysts account for the majority of penile cystic lesions reported in the literature, and their clinical,

morphological and prognostic features have been extensively described.<sup>2,4,7–10</sup> Reports of these lesions, particularly the earlier ones, have used diverse terms such as “parameatal cyst,” “paraurethral cyst,” “genitoperineal cyst,” “mucoid cyst,” “urethroid cyst,” and “hydrocystoma/apocrine cystadenoma” to refer to them.<sup>11</sup> This nomenclature disparity, reports that are mainly clinical in nature (as opposed to focused on pathology/morphology), and the paucity of reports employing ancillary studies such as immunohistochemistry pose a challenge to the characterization of median raphe cysts.

## Pathogenesis

Median raphe cysts arise on the ventral midline of the penis that extends from the urethral meatus to the scrotum and perineum. Their occurrence along this anatomical landmark gave rise to a pathogenesis hypothesis that links the concept of this entity to a defect during the embryological development of the male external genitalia. Through the work of Van der Werff and others, it has been established that in the late

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