Multiple epidermoid cysts on the glans in an adolescent patient

Dear Editor,

A 17-year-old boy presented with a solitary nodule on the dorsal glans, persisting for over six years. He had undergone circumcision in 2017 for phimosis. One year later, he noticed foreskin adhesions and a 0.6 × 0.3 cm flesh-coloured nodule with a small pore but no secretion. No redness, swelling, pain, or itching was observed. He underwent a deep shave of the nodule at a urology clinic, but it recurred a year later, along with a second 0.7 × 0.5 cm nodule nearby. He then sought dermatological treatment, where examination revealed two well-defined, flesh-coloured nodules on the left dorsal glans [Figure 1a]. Surgical excision was performed, and six months later, the wound healed without recurrence [Figure 1b]. Histopathological examination using haematoxylin-eosin staining identified two cystic cavities filled with laminated keratin and lined by stratified epithelia, including granular layers, confirming epidermoid cysts [Figures 2a-c].

Epidermoid cysts are common benign skin lesions that typically appear on the scalp, face, neck, trunk, and extremities. However, they rarely develop on the external genitalia in men and women. These cysts contain keratin, have a true epidermal lining on the internal surface, and exhibit a smooth external surface. They grow slowly and may remain asymptomatic. Epidermoid cysts occur with equal frequency in men and women and are most commonly observed in middle-aged individuals.[1]

This case report describes an exceptional presentation. Epidermoid cysts on the glans are rare, with fewer than ten documented cases.[2] Furthermore, multiple epidermoid cysts on the glans in adolescent patients have not been reported in the medical literature.

Congenital penile epidermoid cysts result from abnormal embryonic closure of the median raphe.[3] Secondary epidermoid cysts may develop from disrupted follicular structures or traumatically implanted epithelium.[4] However, the absence of hair follicles in the glans reduces the likelihood of trauma-induced follicular disruption, minimising the probability of cyst formation. Consequently, cyst development is less common in the glans than in other penile regions.

Figure 1a: Two epidermoid cysts on the glans, with a punctum on the surface of the smaller cyst (black arrow).

Figure 1b: No recurrence of the epidermoid cysts was observed six months after excision surgery. (black arrow)

How to cite this article: Zhao H, Yang T, Liu J, Xie L, You C. Multiple epidermoid cysts on the glans in an adolescent patient. Indian J Dermatol Venereol Leprol. doi: 10.25259/IJDVL_510_2025

Received: March, 2025 **Accepted:** April, 2025 **Epub Ahead of Print:** June, 2025

DOI: 10.25259/IJDVL_510_2025

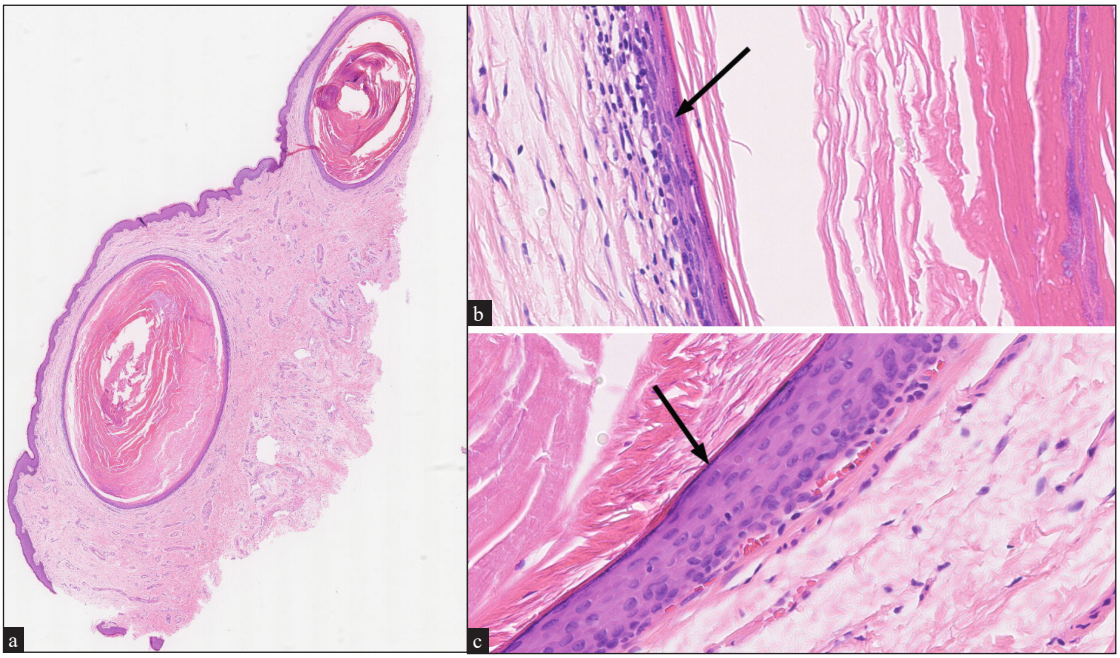

Figure 2: (a) Haematoxylin-eosin staining reveals two intact cystic cavities filled with laminated keratin and lined by stratified epithelium (10x), (b) Granular layer of the larger cyst (black arrow, Haematoxylin & eosin, original magnification 400x), (c) Granular layer of the smaller cyst (black arrow, Haematoxylin & eosin, original magnification 400x).

Recent studies indicate that patients with phimosis have an increased risk of developing secondary penile epidermoid cysts following circumcision. This is likely due to the surgical trauma, which may introduce epidermal tissue into the dermis. Thus, penile epidermoid cysts may arise as a complication of circumcision, particularly when surgical quality is inadequate.[5] In the present case, the initial epidermoid cyst on the glans most likely resulted from circumcision-related trauma and adhesions between the foreskin and glans, which facilitated the introduction of epithelial components into the dermis, leading to cyst formation. The recurrence of the primary cyst and the subsequent development of a second cyst were likely due to the incomplete removal of the cyst wall during deep shaving. If the entire cyst wall is not excised, recurrence is possible.

Epidermoid cysts of the glans can result in cosmetic concerns. Additionally, some reports indicate that untreated epidermoid cysts in the genital area may impact sexual function.[6] Most epidermoid cysts develop during adolescence, and their distinct appearance can lead to feelings of inferiority in affected adolescents, potentially influencing their psychological development and sexual function. Further research is needed to better understand the effects of epidermoid cysts in the penis and glans on sexual function.

Multiple epidermoid cysts on the glans are extremely rare, necessitating careful pathological diagnosis to differentiate them from scars, condyloma acuminatum, Fordyce disease, and pearly penile papules. Minimising trauma and preventing wound infections during invasive procedures can significantly reduce the risk of cyst formation. Surgical intervention remains the primary treatment for established cysts.[7] However, complete excision of the cyst wall is essential for achieving a cure; therefore, the shaving method should be avoided. Additionally, psychological support should be provided when treating adolescents with epidermoid cysts.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent.
Financial support and sponsorship: Nil.
Conflicts of interest: There are no conflicts of interest.
Use of artificial intelligence (AI)-assisted technology for manuscript preparation: The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

Hao Zhao[1], Tao Yang[1], Jie Liu[1], Lang Xie[1], Cong You[1]

[1]Department of Dermatology and Venereology, The First Affiliated Hospital of Gannan Medical University, Ganzhou, China

Corresponding author:
Dr. Cong You,
Department of Dermatology and Venereology,
The First Affiliated Hospital of Gannan Medical University,
Ganzhou, China.
youcong1987@tmu.edu.cn

References

1. Rajendran R, Dighe SP. A giant epidermal cyst in the gluteal region: A case report. Cureus 2023;15:e34266.
2. Hazra SP, Mahapatra RS, Chakraborty D, Pal DK. Epidermoid cyst of the glans penis. Indian J Dermatol Venereol Leprol 2014;80:279.

3. Singh S, Kaur T. Epidermoid cyst of penis. Indian J Dermatol Venereol Leprol 2011;77:627.
4. Bolognia JL, Jorizzo JL, Schaffer JV. Dermatology. In: Stone MS, editor. Neoplasms of the Skin. 3rd edition. Amsterdam: Elsevier; 2012. p. 1817-8.
5. Yu J, Tang R, Ding K. Analysis of related factors between the occurrence of secondary epidermoid cyst of penis and circumcision. Sci Rep 2022;12:13563.
6. DiCarlo-Meacham AM, Dengler KL, Snitchler AN, Gruber DD. Clitoral Epidermal inclusion cyst leading to anorgasmia: A case report and literature review. J Pediatr Adolesc Gynecol 2020;33:321-3.
7. Wollina U, Langner D, Tchernev G, França K, Lotti T. Epidermoid cysts - A wide spectrum of clinical presentation and successful treatment by surgery: A retrospective 10-year analysis and literature review. Open Access Maced J Med Sci 2018;6:28-30.