

Penile Epidermal Cyst: A Case Report

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ABSTRACT

Epidermal cysts also known as epidermoid cysts, is one of the common benign tumours presenting anywhere in the body. However, epidermal cyst in the penis is very rare. This condition in children is usually congenital due to abnormal embryologic closure of the median raphe; hence, it is termed as median raphe cysts (MRCs). Penile epidermal cysts may occur in adults following trauma or surgery due to epidermal elements being trapped within closed space. During wound healing, trapped squamous epithelium, undergoing keratinisation leads to cyst formation. Here, we report a rare case of patient with a penile epidermoid cyst whose main complaints was discomfort during coitus.

Keywords: Congenital, Eccrine ducts, Median raphe, Sequestration

CASE REPORT

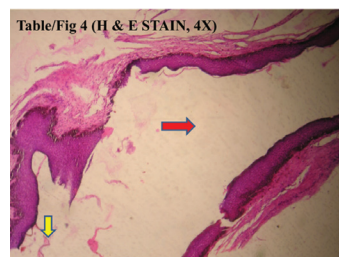
A 42-year-old man presented with a painless, slowly growing mass near the tip of the penis since childhood. Discomfort during coitus was his only complaint. On examination a firm mobile mass about 2.5 cm in diameter was found at the redundant part of the prepuce on the ventral aspect [Table/Fig-1]. The skin over the cyst was intact and not adherent to the cyst. There were no signs of inflammation and regional lymph nodes were not involved. Patient was taken up for surgery and excision of the mass was performed under local anaesthesia. There was no communication with the urethra. Excised specimen is shown in [Table/Fig-2]. Immediate postoperative picture is shown in [Table/Fig-3]. Histopathology report on excised specimen came as 'section shows a cyst lined by stratified squamous epithelium, which shows maturation and differentiation. Cyst wall exhibit fibro collagenous tissue infiltrate with lymphocytes, plasma cells and mast cells: features suggestive of epidermal cyst' [Table/Fig-4&5].

DISCUSSION

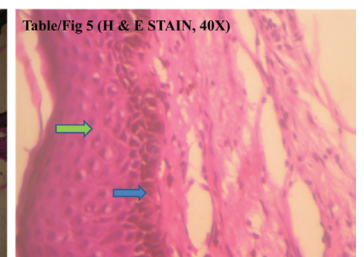
Epidermal cysts also known as epidermoid cysts, is one of the common benign tumours presenting anywhere in the body. However, epidermal cyst in the penis is very rare [1]. Median raphe cysts (MRCs) of penis are uncommon benign congenital lesions [2]. Amaranathan A et al., in their study have inferred that 'less than 200 cases only of penile localization have been reported in the world literature so far, out of which only 10 from India' [3]. Nevertheless, our effort on web search could not precisely confirm this, probably due to many terms used to label the condition of penile epidermal cyst and varying theories of aetiopathogenesis



[Table/Fig-3]: Immediate postoperative picture.



Table/Fig 4 (H & E STAIN, 4X)



Table/Fig 5 (H & E STAIN, 40X)

[Table/Fig-4&5]: Histopathology report on excised specimen: 'Section shows a cyst lined by stratified squamous epithelium, which shows maturation and differentiation. Cyst wall exhibit fibro collagenous tissue infiltrate with lymphocytes, plasmacells and mast cells: features suggestive of epidermal cyst' Red arrow- cystic space. Yellow arrow- keratin. Green arrow- well differentiated benign stratified squamous epithelium. Blue arrow-basal layer showing pigmentation.



[Table/Fig-1]: Epidermal cyst of penis, preoperative picture (prepuce retracted).

[Table/Fig-2]: Excised specimen.

postulated. However, many authors have reported that epidermal cyst in penile location is rare. This condition in children is usually congenital due to abnormal embryologic closure of the median raphe; hence it is termed as MRC, which can develop at any site along the midline of the ventral side of the male genital area, from the urethral meatus to the anus and the perineum i.e. along the median raphe of the male external genitalia [2-7]. Anomalous developmental rest of the periurethral glands of Littre or blockage of the paraurethral ducts could also cause the MRCs because

intraepithelial mucus cells and glandular structures were found within the cyst in some cases [8,9]. Penile epidermal cysts may occur in adults following trauma or surgery due to epidermal elements being trapped within closed space. During wound healing, trapped squamous epithelium, undergoing keratinisation leads to cyst formation [10,11]. Some differential diagnoses include dermoid cyst, teratoma, urethral diverticulum, glomus tumour, pilonidal cyst and epidermal inclusion cyst, and steatocystoma [2,6]. Contents of these cysts may be keratin as in posttraumatic cysts, skin and its appendages as in dermoid cysts, and germ cell derivatives as in teratoma. Neoplastic transformation of the epithelium of epidermoid cysts turning malignant has been reported rarely but such transformation is not reported so far in penile cysts [12,13]. Most of the patients may remain asymptomatic during childhood and become symptomatic during adolescence or adulthood the symptoms being pain (may be due to infection or trauma), difficulty during micturition, haematuria, haemospermia and difficulty in having sexual intercourse. Our patient presented with a penile epidermoid cyst – a comparatively rare location with main complaint of discomfort during coitus. Epidermal cysts are common benign tumours that may arise from the infundibular portion of the hair follicle spontaneously or subsequent to trauma, but penile epidermoid cysts are uncommon and usually congenital. These cysts may occur because of obstructed eccrine ducts of buried hair follicles [14]. Urethral diverticulum with its complications has to be differentiated in which case the wall of the cyst will be urothelium not penile skin. Mucoïd cyst is yet another differential diagnosis [15]. Neoplastic transformation of epidermoid cysts is rare, and it has never been reported in penile cases [4,14,15]; in any case, a long follow-up after surgical removal is highly recommended.

CONCLUSION

Due to many terms used to label the condition of penile epidermal cyst and varying theories of aetiopathogenesis postulated, it is

difficult to retrieve proper articles in the medical literature and derive relevant message regarding incidence and guidelines for diagnosis and management. However many authors have reported that epidermal cyst in penile location is relatively rare, very rarely turns malignant and simple excision and follow-up is the line of management. Our case report adds up to the list of such rare ones.

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