Case Series

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Glans Cyst- A Rare Anomaly

Surgery Section

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ABSTRACT

The glans cyst of the penis is an uncommon occurrence and was first described by Lantin and Thompson in 1956. These cysts are generally asymptomatic; however, may present with varied symptoms including dysuria, acute urinary retention, and difficulty in micturition. Cyst may also impact normal anatomy of the penis. Here, we report three cases of glans cyst presenting as slow growing, non-tender, soft cystic swelling measuring 1×1.5 to 2.5×2.5 cm size. The diagnosis of this cyst was made primarily based on physical examination and the management included complete surgical excision. Histopathological examination showed monolocular cystic cavity lined by a pseudo stratified columnar epithelium in two cases and stratified squamous epithelium in the third case.

Keywords: External urethral meatus cyst, Mucus cyst of the penis, Parameatal cyst, Raphe cyst

Case 1

Parents of a four-year-old child observed slow growing, non-tender, soft cystic swelling of 1×1.5 cm over the glans which was present since birth.

Case 2

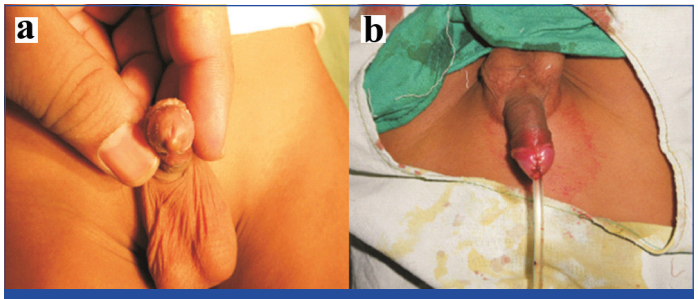
A 17-year-old boy had non-tender, soft cystic swelling of 1.8×2.2 cm which was slowly growing since last six months.

Case 3

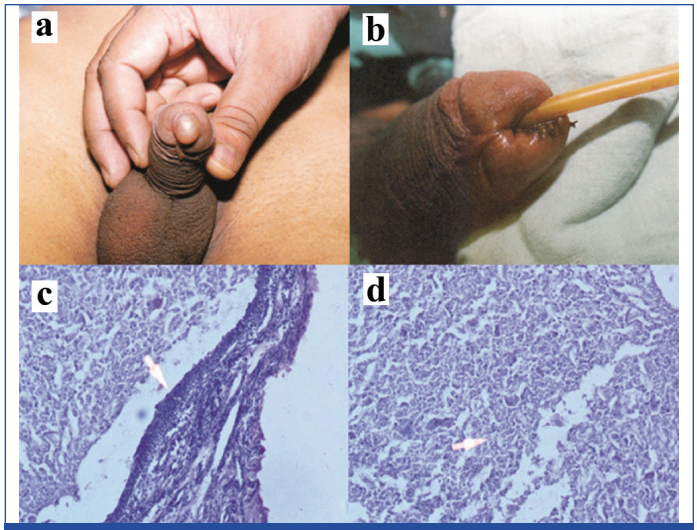
A 22-year-old boy had similar swelling of size 2.5×2.5 cm with mild pain on pressing, which was growing slowly since last one year [Table-Fig-1a-3a]. There was no history of trauma or penile surgery. General physical and systemic examination was unremarkable. Haemogram, blood biochemistry and urine examination were normal. Diagnosis was based on clinical finding only.

All three patients had complete excision of cyst under spinal anaesthesia (in adult patients) or general anaesthesia (in child Case 1) and the edges were sutured with 4-0/5-0 chromic catgut [Table-Fig-1b-3b]. Per urethral catheter was kept for 24 hours. Postoperative period was uneventful. Patients were discharged from hospital after first dressing in between second and fifth postoperative day. All three patients passed urine in good stream and urine cultures were sterile. After the surgical excision, good cosmetic results were obtained, without meatal stricture or urine flow problems.

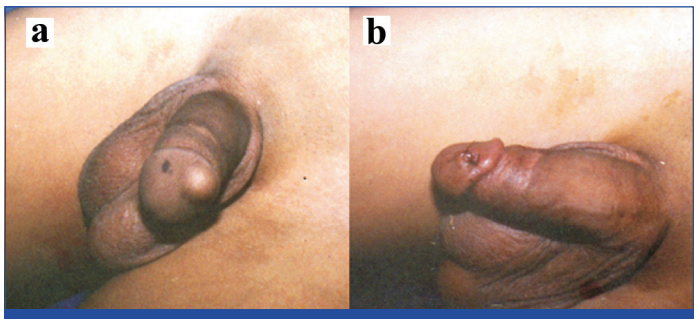
Histopathological examination revealed monolocular cystic cavity lined by a pseudostratified columnar epithelium (Case 1 and 2) and stratified squamous epithelium (Case 3) of varying thickness with no evidence of inflammation, cavity filled with mucus material (Case 1) and necrotic degenerative material (Case 2 and 3) [Table-Fig-2c,d]. No recurrence was observed at the one-year follow-up.



[Table/Fig-1]: Case 1 (a) parameatal cyst; (b) postoperative image.



[Table/Fig-2]: Case 2 (a) median raphe cyst; (b) postoperative image; (c) cyst lined by pseudostratified columnar epithelium (H&E stain) (arrow); (d) necrotic degenerative material in cyst (arrow).



[Table/Fig-3]: Case 3 (a) glans cyst; (b) postoperative image.

DISCUSSION

The glans cyst of the penis is uncommon benign lesion which affects young men [1,2]. Various terms used to describe glans cyst include mucus cyst of the penis, raphe cyst, parameatal cyst, and hidrocystoma [3]. Glans cyst was first described by Thompson IM and Lantin PM, where they reported two cases and since then several cases have been reported [4]. The [Table-Fig-4] summarises previous reports of glans cyst [5-13].

Glans cysts are generally asymptomatic, hence there may be hesitancy in seeking medical help; however, sometimes these may present with symptoms like dysuria, difficulty in micturition and acute retention. Glans cysts may also impact the normal appearance [1-3].

Author	Age (years)	Size	History	Treatment	Histology
Thompson IM and Lantin PM [4]	21	NS	Present since birth without pain. Pain during intercourse.	Simple enucleation under LA	NS
	NS	NS	Present since birth. Pain during intercourse.	Not removed	NS
Kawakami S et al., [5]	18	8×8 mm	First noticed when patient was 16 years old	Excision	Columnar cells
	10	7×7 mm	Become aware of the cyst 8 month	Excision	Transitional cells
	12	6×6 mm	Since patient was 6 years old	Excision	NS
	9	5×5 mm	Cyst for 5 years	Excision	Columnar cells
Dini M et al., [6]	67	0.6 cm	Small asymptomatic cystic lesion	Excision	Mucinous columnar cells
	22	0.75 cm	Present without any symptoms since childhood	Excision	Metaplastic pluristratified epithelium
Neeli SI et al., [7]	12	1×1 cm	Present since early childhood	Excision	Columnar epithelium
Lal S and Ankur A [8]	7	0.8 cm	Swelling on right side of glans for five months	Excision	Columnar epithelium
Nobeyama Y and Nakagawa H [9]	33	5-10 mm (multiple)	10-year history of slowly growing multiple nodules	NS	NS
Sinha RK et al., [10]	47	1×1 cm	Gradually increasing cyst for one and half year	Excision	Squamous and columnar epithelium
	4	0.5 cm	Increasing swelling for three months	Excision	NS
Patil SB et al., [11]	10	1.0×0.8 cm	Increased frequency of micturition (6 months) and burning micturition (1 month)	Excision with meatal reconstruction	NS
Shaw SC et al., [12]	Newborn	NS	Small yellowish cystic lesion at tip of penis adjacent to external urethral meatus	None. Discharged with advice to follow-up	-
Kaselas C et al., [13]	Newborn (7 days)	NS	Cyst on the urethral meatus	Excision	Squamous epithelium
Present cases	4	1×1.5 cm	Present since birth	Excision	Pseudostratified columnar epithelium
	17	1.8×2.2 cm	Slowly growing since last 6 months	Excision	Pseudostratified columnar epithelium
	22	2.5×2.5 cm	Slowly growing since last 1 year	Excision	Stratified squamous epithelium

[Table/Fig-4]: Summary of previous reports [4-13].
NS: Not specified

These cysts usually appear spontaneously during the second decade of life but can also present in infants. The aetiology of glans cysts is fully unknown; however, it is thought to be caused due to the obstruction of the paraurethral ducts which could be spontaneous or secondary to infection [7,14,15]. Ichiyanagi N et al., found prostatic-specific antigen in parameatal cysts demonstrating possible role of accessory male sex glands [16]. Another report by Soyer T et al., parameatal cysts in new-born females were found to be associated with vaginal bleeding and enlargement of the breast showing possible role of oestrogen [17].

The Thompson IM and Lantin PM, explained it to be caused due to the persistence of cystic spaces in the separation line of the prepuce from the glans [4]. Different treatment modalities have been reported for the management of glans cysts including waiting for impulsive rupture, marsupialisation, complete removal of the cyst and aspiration with needle [1,2,14,18]. There are less chances of recurrence in patients where complete excision is done. The cysts are generally small (less than 1 cm diameter); however, in present cases the cysts were slightly bigger (1×1.5 cm to 2.5×2.5 cm). Hence, these cases were comparatively rare considering their normal pattern.

Histological examination generally shows different types of epithelium like columnar, transitional, cuboidal or squamous [2]. In the present cases, the cyst wall was lined by a pseudo stratified columnar epithelium/stratified squamous epithelium.

CONCLUSION

Glans cysts of the penis are uncommon; usually benign and asymptomatic. Only physical examination could be sufficient to make a diagnosis. To obtain good clinical and cosmetic outcomes and to reduce the risk of recurrence complete surgical excision is necessary.

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