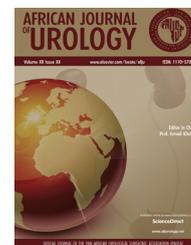




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### Pediatric Urology

#### Case report

# Precoccygeal epidermoid cyst in a child — A unique case report

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#### KEYWORDS

Cyst;  
Epidermoid;  
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Perianal

#### Abstract

**Introduction:** Epidermoid cyst is a benign tumour frequently observed throughout the body. It can grow in size and may get infected over a period of time.

**Observation:** We are reporting a case of precoccygeal epidermoid cyst in a six year old female child which was managed successfully.

**Conclusion:** Precoccygeal epidermoid cyst in female children has not been reported in the English literature so far. Hence, we are reporting this case.

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#### Introduction

Epidermoid cysts are frequently occurring benign cysts all over the body and their presence in the retrorectal or precoccygeal region is very rare. Cysts in these regions generally have embryological ori-

gins. However, tumours with notochordal, cloacal and neurogenic origins can also appear in these regions. Though not uncommon in adults, pediatric precoccygeal epidermoid cyst has not been reported in English literature so far. In view of its rarity in its anatomic location in children, we are reporting this case.

#### Case report

A six years old girl was brought to us with swelling in the lower back, noticed since six months by mother while giving bath to the child. Initially swelling was small in size, gradually progressed to

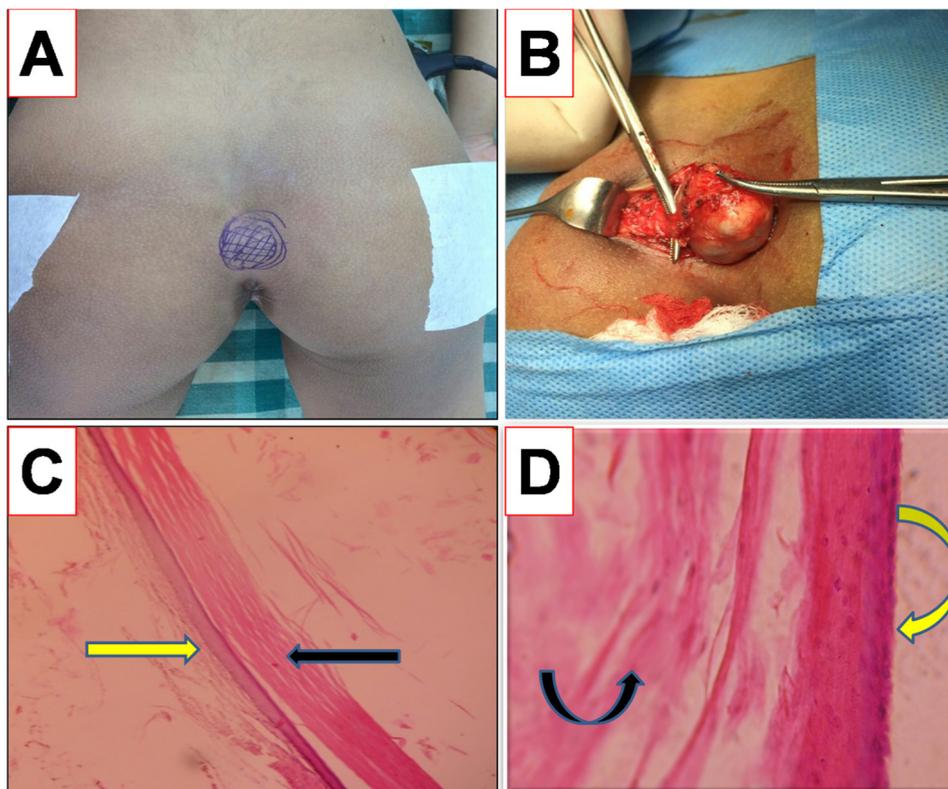
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**Figure 1** (A) Rounded marked area over the swelling with patient showing pre coccygeal epidermoid cyst. (B) Intra operative picture of precoccygeal epidermoid cyst. (C) HPE-Low power view (10 $\times$ ) showing the cyst wall lined by stratified squamous epithelium with keratinous material in the lumen. Yellow arrow is showing stratified squamous epithelium. Black arrow showing the keratinous material in the lumen of the cyst. (D) HPE picture — High power view (40 $\times$ ) yellow arrow showing stratified squamous epithelium. Black arrow showing keratinous material in the lumen.

the present size of 4  $\times$  3 cm with normal overlying skin (Fig. 1A). There was no associated skin dimple or sinus tract over the swelling or around it. Swelling was not associated with any trauma, pain or weakness in the lower limbs. There was no disturbance in urine and faecal continence.

On examination, we noticed non tender nodular swelling of size 2  $\times$  3 cm in the subcutaneous plane postero superior to the anal orifice superficial to coccyx in the midline. Child was evaluated elsewhere with contrast enhanced computed tomography (CECT) of the pelvis, which showed cystic lesion just inferior to coccyx in the subcutaneous plane. On ultrasonography, we noticed evidence of ill-defined heterogeneously hyperechoic lesion of size 1.8  $\times$  1.9 cm noted in the postero superior aspect of anal region, superficial to coccyx in the midline showing no significant vascularity and calcification, suggestive of dermoid or epidermoid cyst. For definitive diagnosis, we excised the cyst under general anaesthesia with child in prone jack knife position. Peroperative findings included a cystic lesion of size 2  $\times$  1 cm in the precoccygeal space, not adherent to coccyx or deep fascia, but in the subcutaneous plane (Fig. 1B). In view of its close proximity to the coccyx, we excised the swelling and the coccyx. Histopathological examination revealed cyst wall lined by stratified squamous epithelium with abundant keratin in the lumen without any evidence of calcification, muscle fibres or skin adnexal structures, confirming it to be an epidermoid cyst (Fig. 1C & D). Child is doing well at 6 months follow up.

## Discussion

Epidermoid cysts are usually small, solitary and slow growing lesions occurring in all age groups but are more common in women of reproductive age group [1]. The pathogenesis of epidermoid cyst is still unclear; however congenital or posttraumatic theories have been described. Epidermoid and dermoid cysts are known to result from defective closure of the ectodermal tube, which results in inclusion of skin with or without accessory appendages which are lined by stratified squamous epithelium. They are well circumscribed with thin layer of connective tissue and filled with thick yellow green fluid containing a mixture of desquamated debris, cholesterol, keratin and water. Epidermoid cysts have no skin appendages whereas dermoid cysts contain them [1,2].

The most common locations of epidermoid cysts are the face, trunk and neck; however, some exceptional locations have been reported [1].

Retrorectal tumours are heterogeneous lesions confined to the space in front of the lower part of the sacrum and coccyx. So, in the case of large cysts, to gain access, surgical approach requires en-bloc coccygectomy in adults. However, in view of risk of malignancy and recurrence in sacro coccygeal teratoma (SCT), the pre sacral or precoccygeal cysts are removed en block with coccyx in children [2,3].

The classification system described by Uhlig and Johnson and modified by Lovelady and Dockerty is commonly used for the grading of retrorectal tumours. According to this classification, retrorectal tumours are divided into 5 categories: congenital, inflammatory, neurogenic, osteogenic and others. Neoplastic tumours and inflammation with cystic degeneration have also been described in the peri rectal region. These include gastrointestinal stromal tumours (GIST), neurogenic tumours, anorectal carcinomas and perineal abscesses [4,5].

About half of all developmental cysts described are hamartomas/mucinous cysts (including tail-gut cysts), dermoid/epidermoid cysts, teratomas and rectal duplication cysts [3–5].

Sacrococcygeal teratoma (SCT) is the most common retrorectal germ cell tumour diagnosed in neonates, infants and children younger than 4 years. Since they develop at the base of coccyx and are thought to be derived from primitive streak; retaining the coccyx has been known for recurrence of the tumour. Hence, removal of coccyx has been widely practised [5].

The precise diagnosis and appropriate treatment are very important for tumours in this region because an incorrect or insufficient first surgical treatment can complicate further management like risk of recurrence and faecal incontinence. Prognosis and outcome of these lesions is excellent, with a recurrence rate of only 3% [6,7].

In the present case, more than the parental anxiety or concerns, it was more of anatomical location of the lesion that prompted us to do definitive diagnosis by completely excising it.

The study conducted by Whittaker and Pemberton between 1922 and 1936 reported 22 retrococcygeal tumours. Of these, 10 were benign (9 dermoid cysts and 1 fibroma), and the remaining tumours were malignant. An epidermoid cyst was not detected in any of the cases in the study [8].

Literature confirms that epidermoid cysts in the retrorectal region are very rarely seen. As per our literature search, we found few case reports of tail gut cysts in children presenting with retrorectal asymptomatic masses.

Our case was a 6 years old female child with precoccygeal cyst. As per literature search, we found only one case of precoccygeal epidermoid cyst in a 4 year African boy reported by Patchefsky et al. in 1970 [9].

Hence, ours is the first ever case of precoccygeal epidermoid cyst in a female child to be published in the English literature so far. In view of its rarity, we are reporting this case we encountered in our institute.

#### Conflict of interest

None.

#### Ethical committee approval

Indira Gandhi Institute of Child Health, Bangalore, Karnataka, India — ethical committee approval has been taken.

#### Authors' contribution

Jayalaxmi S. Aihole: Admission, evaluation and management including operating on the patient. Concept, collecting the literature, review of the literature, writing the article, critically evaluating the article. Submission of the article.

Gowdra Arun: Collecting the literature, critically evaluating the article.

Javaregowda Deepa: Operating surgeon.

Siddavatam Supriya: Pathological diagnosis of the cyst.

#### Consent from the patient

An informed consent had been obtained from the parents.

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