

# A rare entity: Penile epidermoid cyst in a boy

## Ender bir durum: Bir erkek çocukta penil epidermoid kist

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### SUMMARY

Epidermoid cysts (EC), is one of the common benign tumours presenting anywhere in the body. However penile EC is rare, even rarer in pediatric age group. There are usually congenital. EC result from the proliferation of epidermal cells within a circumscribed space of the dermis. A five-year-old boy presented with an asymptomatic, elastic swelling on the ventral surface of the penis near the corona for three years. The swelling was flesh-colored, subcutaneous, and freely movable within the dermis. He had no history of inflammation or any urinary symptoms. Rest of the genitals were normal. Excision of the cyst was performed under general anesthesia. The histopathology reported the swelling as an EC. No recurrence has been noted in the three year since excision. Penile EC can occur after minor surgical procedure like circumcision. The condition needs to be treated with total surgical excision in case it occurs.

**Keywords:** Penile, epidermoid cyst, child

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### ÖZET

Epidermoid kistler (EC), vücudun herhangi bir yerinde görülen yaygın, iyi huylu tümörlerden biridir. Ancak penil EC nadirdir, pediatrik yaş grubunda daha da nadirdir. Penil EC genellikle doğuştandır. EC, dermin sınırlı bir alanı içinde epidermal hücrelerin proliferasyonundan kaynaklanır. Beş yaşında bir erkek çocuk, penisin ventral yüzeyinde korona yakınında, üç yıldır ortaya çıkan asemptomatik, elastik bir şişlik ile başvurdu. Şişlik cilt renginde, deri altında ve dermiş içinde serbestçe hareket edebiliyordu. Enfeksiyon öyküsü veya idrar yakınması yoktu. Genitoüriner sistemin geri kalanı normaldi. Genel anestezi altında kistin total eksizyonu yapıldı. Kitlenin histopatolojik tanısı epidermoid kist olarak raporlandı. Eksizyondan sonraki üç yıl içinde nüks görülmedi. Penil EC, sünnet gibi küçük cerrahi işlemlerden sonra ortaya çıkabilir. Total cerrahi eksizyon ile tedavi edilmesi gerekir.

**Anahtar sözcükler:** Penil, epidermoid kist, çocuk

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## INTRODUCTION

Epidermal inclusion cysts are the most common cutaneous cysts. Epidermoid cysts of the penis are extremely rare. Numerous synonyms for epidermal inclusion cysts exist, including epidermoid cyst, epidermal cyst, infundibular cyst, inclusion cyst, and keratin cyst<sup>1</sup>. Penile epidermoid cysts are usually congenital and uncommon.

In this case report we have presented a pediatric penile epidermoid cyst, following circumcision surgery in a pediatric patient.

## CASE REPORT

A five-year-old boy presented with an asymptomatic swelling on the penis for three years. The swelling was on the ventral surface of the penis measuring 3x2 cm in the frenulum of the subcutaneous area (Fig. 1). The swelling was initially small and gradually increased in size. The patient had undergone circumcision in his infancy. He had no history of fever, inflammation or any urinary symptoms. The examination revealed an apparently pedunculated swelling over the ventral aspect of the shaft of penis proximal to the corona glandis and frenulum (Fig. 2). The flesh-colored elastic mass was nontender, freely movable within the dermis, and had a smooth surface. Rest of the genitals were normal. Cyst excised and the defect closed primarily under general anesthesia. Post-operative period was uneventful and patient was discharged on day one post-operative.

Macroscopically, the cut surface of the mass appeared to be full of a cheesy material. The histopathologist reported the mass to be an epidermoid cyst. There was neither a keratin-filled punctum nor inflammatory signs. Histologic examination revealed that the cyst wall exhibit fibro collagenous tissue was seen. It did not contain

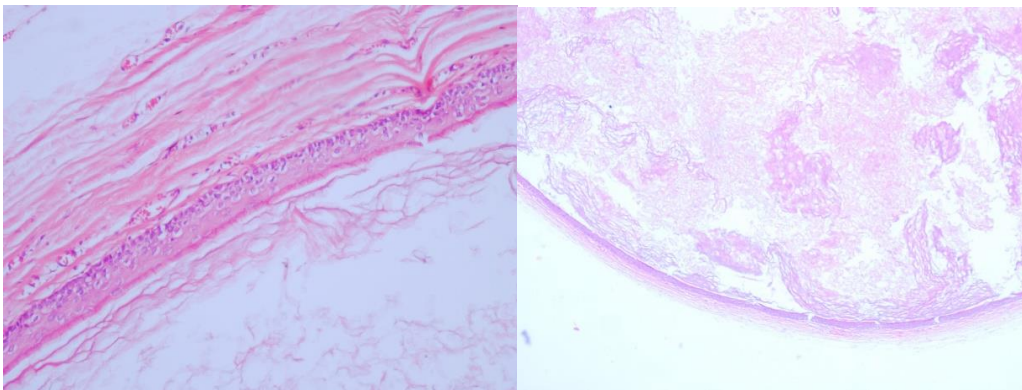
either skin appendages or germ cells (Fig. 3,4). No recurrence has been noted in the three years since excision.



**Figure 1:** Cyst of penis, preoperative picture.



**Figure 2:** Perioperative picture showing cyst.



**Figures 3-4:** Section shows a cyst is notable for laminated keratin, lined by stratified squamous epithelium, which shows maturation and differentiation. Cyst wall exhibit fibro collagenous tissue was seen ((H&E X100, H&E, X40).

## DISCUSSION

Epidermoid cysts of the penis are mainly encountered in children <sup>2</sup>. These cysts result from implantation and proliferation of epidermal elements in the dermis. Although cutaneous epidermoid cysts are common lesions, penile localization of them is quite rare <sup>3</sup>.

Epidermoid cysts may be formed by several mechanisms. They may result from the sequestration of epidermal rests during embryonic life, occlusion of the pilosebaceous unit, or traumatic or surgical implantation of epithelial elements. True epidermoid cysts result from the implantation of epithelial elements in the dermis. The differential diagnosis of penile epidermoid cyst includes steatocystoma, dermoid cyst, teratoma, urethrocutaneous fistula, and urethral diverticula <sup>3</sup>.

Theoretically, surgical procedures may result in epidermoid cysts. In our patient there was a history of undergoing circumcision in infancy that could well be the cause of the epidermoid cyst. The swelling was caused from the shaft of the penis near the corona.

Features of epidermoid cysts have been well characterized on sonograms. In our patient neither ultrasonography nor magnetic resonance imaging was done as excision was planned. The said investigations would not have added any further information especially in view of the fact that malignant transformation of these swellings is a rare entity.

The indications for the treatment of cysts are secondary cystic infection, cosmetic reasons, or obstruction of the urinary tract. Complete surgical excision followed by primary closure has generally been regarded as the best treatment procedure <sup>4</sup>. Aspiration and simple drainage may carry a risk of recurrence. It has been reported that re-excision was required when residual tissue was left after treatment <sup>4</sup>. In cases where no malignancy is evident, simple observation may be the best treatment option. Malignant transformation of epidermoid cyst is uncommon, and it has never been reported in penile cases; in any case, follow-up after surgical excision is recommended <sup>5</sup>.

**In conclusion**, penile epidermoid cyst is rare, even rarer in the pediatric age group and can occur after minor surgical procedure like circumcision. Care needs to be taken while performing surgical procedures to avoid this complication. Differential diagnosis from other congenital swellings of the penis more commonly seen in the pediatric age group is a must.

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