

# Epidermoid Cyst at Plantar Aspect of Foot-Report of a Case with Brief Review of Literature

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**Abstract:** *Epidermoid inclusion cysts are common benign subcutaneous lesions, commonly seen in hairy regions of body but rarely occur in skin of palm and sole. Hereby, we report a case of epidermoid cyst uncommonly presenting at the plantar aspect of foot (sole) in a 13 year old female. FNAC (Fine needle aspiration cytology) was diagnostic of this clinically deceptive lesion.*

**Keywords:** Epidermoid cyst, plantar, FNAC, foot, sole

## 1. Introduction

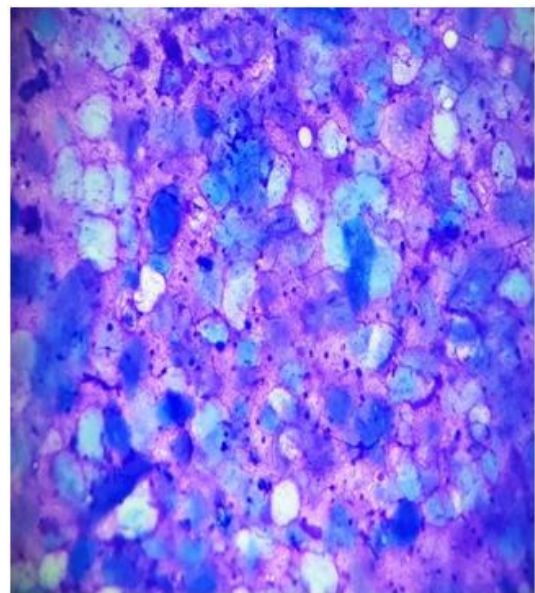
Epidermoid cysts are common benign subcutaneous lesion also termed as epidermal inclusion cysts. These commonly occur in hairy regions of body like scalp, face and scrotum, can be multiple or single, but rarely can also occur in glabrous skin of palm and sole. Clinically such a lesion in sole can mimic other common lesions of foot like callus or corn etc. [1] FNAC of such a lesion provides quick and reliable diagnosis for further surgical excision.

## 2. Case Report

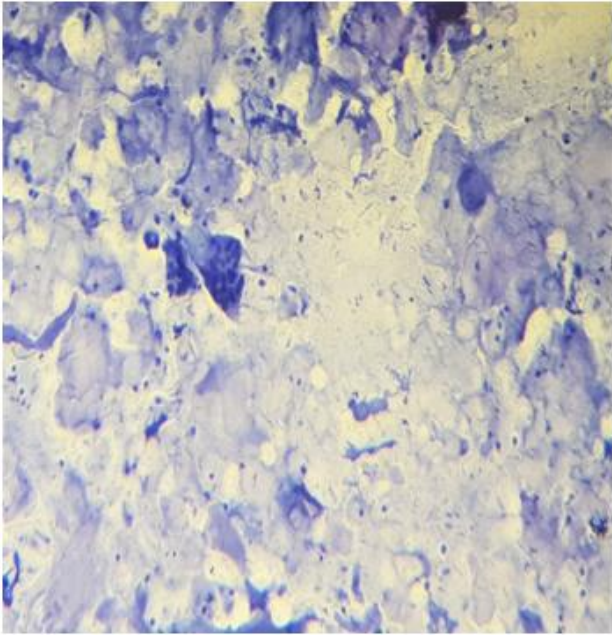
A 13 year old female presented with complaints of swelling in her right sole and discomfort during walking since 1 year. According to the patient there was no history of trauma. General physical examination was unremarkable. Local examination revealed a solitary 2x2cm firm soft tissue swelling located in the plantar aspect of right foot under the head of 1st and 2nd metatarsal [Figure 1]. Swelling was in subcutaneous plane, mobile and overlying skin not pinchable. There were no signs of inflammation. Metatarsophalangeal joint movements were normal. There was no other swelling in the body elsewhere. FNAC from the right foot swelling revealed dirty aspirate and showed numerous anucleated squames and inflammatory cells comprising neutrophils, lymphocytes and histiocytes in a background of keratinous debris. Occasional foci of calcification and giant cell reaction were also noted and diagnosis of inflamed epidermoid cyst was given. [Figure 2a, 2b]



**Figure 1:** 2x2cm firm swelling over right sole



**Figure 2 (a):** Numerous anucleated squames with keratinous debris. (Giemsa, X100)



**Figure 2 (b):** Numerous anucleated squames and occasional histiocytic giant cell. (Papanicolaou, X100)

### 3. Discussion

Epidermoid cyst is a retention cyst related to sebaceous gland and it results from progressive cystic ectasia of the infundibular portion of hair follicle [1,2]. They usually occur in hairy regions of body, but rarely can be found on sole. In palm and sole, there are no sebaceous glands or hair follicles, so it was initially thought that epidermal cysts do not occur in these regions, but a different aetiopathogenesis was postulated since these cysts were also seen on palm and sole. Traumatic implantation of epidermal cells into the dermis or foreign body reaction or sometimes microtraumatic event like irritation. Hence, traumatic sequestration is thought to be the etiology of epidermoid cyst on palm and sole.[1]. They are frequently seen in farmers, factory workers, carpenters and tailors who are subjected to frequent repeated trauma to feet or hands. Epidermoid cyst can occasionally be seen in the scars of surgical incisions following some surgical procedures. HPV infection, ultraviolet exposure and eccrine duct obstruction are also suggested to be some other factors leading to development of palmo-plantar epidermoid cyst. [3]

The epidermoid cysts of sole are usually asymptomatic, painless, superficial localized swelling but can be painful if occurs on high pressure areas. Clinically it should be differentiated from other common lesions which can be seen on plantar aspect of foot like corns, callus, plantar warts, foreign body reactions. [1,3]

The treatment of epidermoid cyst is surgical excision of the whole lesion, including capsule of the cyst, in order to avoid recurrences. It is important to avoid damaging the cyst during excision so that a keratotic granuloma of giant cells is not formed. [4]

Complications like inflammation, infection and rupture with foul smelling discharge can occur in epidermal cysts. Epidermoid cysts are benign lesions; however malignant

transformation into squamous cell carcinoma has been described in few cases. [5]

### 4. Conclusion

Epidermoid cyst is a benign cystic lesion with rare occurrence in the sole. Usually it is asymptomatic except when they occur in high pressure areas. Epidermoid cyst, however is rare on palm and sole but should always be kept in the list of differential diagnosis for the swelling of the sole which can easily be treated by simple surgical excision.

### References

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