Giant Epidermal Cyst of the Foot

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SUMMARY

Introduction Epidermoid inclusion cysts are usually composed of epidermal elements implanted into the dermal layers. Patients are seen in the outpatient clinics with a mass. Most of the complaints are mechanical and cosmetic problems.

Case Outline A 34-year-old female patient was admitted to our clinic because of swelling and pain in her right foot. A palpable mass was detected in the first web. On the x-rays of the foot no osseous lesion was detected. There was a soft tissue mass in the first web according to MRI report. Soft tissue mass was excised and sent to pathology. According to pathology report the mass was an epidermoid cyst 5×2×1.5 cm in size. There were no problems during follow-up of the patient for 6 months after surgery. The patient had no swelling in the foot and had no additional complaints on checkup.

Conclusion In the differential diagnosis, we should take into consideration epidermoid cyst of large soft tissue masses of the foot. Surgical excision should be done within the appropriate limits.

Keywords: epidermoid cyst; foot; plantar

INTRODUCTION

Epidermoid cysts are also termed epidermal cysts, epidermoid inclusion cyst, infundibular cysts and keratin cysts [1]. Epidermal inclusion cysts are usually composed of epidermal elements that are implanted into the dermal layers [2].

Patients are seen at outpatient clinics with a mass on the foot. Some patient's complaints are mechanical problems that are created by the mass, while some patients have cosmetic problems. The mass on foot can be benign or malignant. Epidermoid cysts are seen more frequently on a hand than on the foot and generally patients have a history of trauma [3].

CASE REPORT

A 34-year-old female patient was admitted to our clinic with complaints of swelling at the base of her right foot and pain during walking. The patient's complaints lasted for about one year. According to the patient, there was no trauma or stinging with a sharp-pointed structure or body. The range of motion of the right foot and the toes were normal on physical examination. No neurovascular deficiency was detected. There were no signs of infection. A soft tissue mass approximately 3.5×1 cm in size that was in the first web was detected by palpation on the plantar side of the right foot. No structural bone pathology and soft tissue pathology was identified on the foot radiographs (Figure 1). A cystic soft tissue mass without contrast enhancement was detected by contrast-enhanced MRI (Figure 2). Surgical excision was recommended to the patient.

Approximately 7 cm longitudinal side right incision was done on the plantar of the foot in the first web. Skin and subcutaneous tissues were passed, the soft tissue mass was dissected and a wide excision was done (Figures 3, 4 and 5). Subcutaneous tissues and skin were closed. The excised mass was sent for pathological analysis. There were neither neurovascular complications nor wound complications after the surgery. The excised soft tissue mass was reported as an epidermoid cyst according to the pathology report (Figure 6). There were no signs of recurrence after the six-month follow-up time period.

DISCUSSION

Ozatwa et al. [4] reported a 65-year-old male patient with a giant epidermoid cyst that was passed through interosseous muscles of the foot, with a mass on the dorsal side of the foot. The giant epidermoid cyst has no interosseous extension in our case. Epidermoid cysts may be atypical and with emissions. For this reason, the delineation of boundaries of the cyst before surgery is important for surgical excision so as to prevent complications that may occur postoperatively.

Harish et al. [5] reported a case of keratin granuloma due to a ruptured epidermal cyst that occurred in the foot of a 52-year-old woman. There was no epidermoid cyst rupture in our case. Ruptured epidermal cysts must be taken into consideration in the differential diagnoses.

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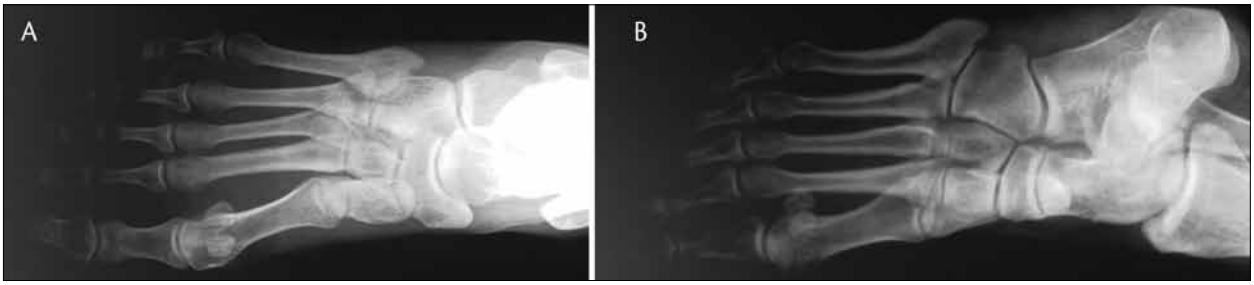

Figure 1. Preoperative radiographs of the foot

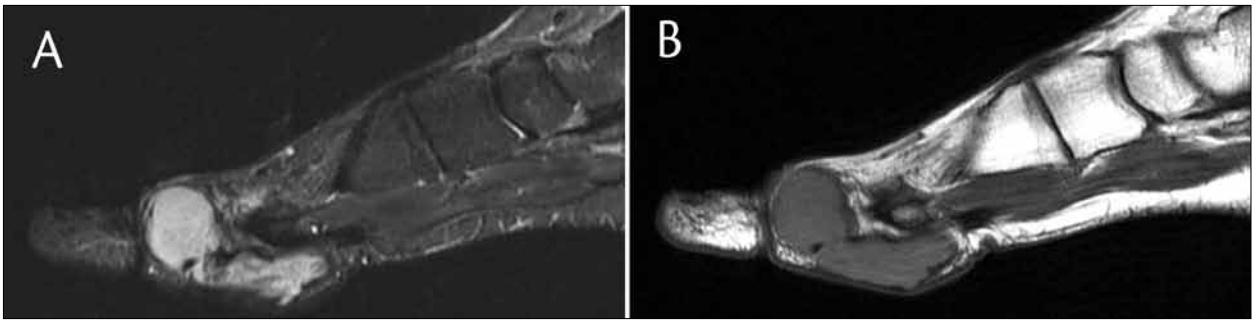

Figure 2. Cystic soft tissue mass on MRI

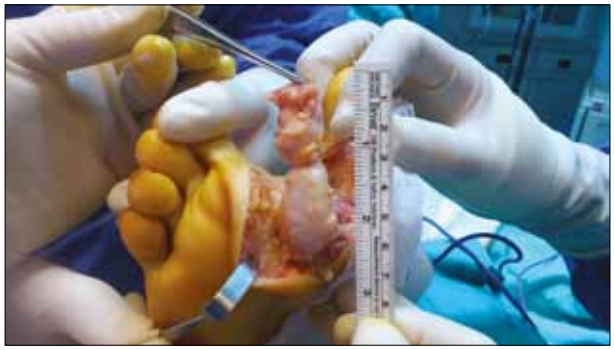

Figure 3. Cystic soft tissue mass in surgery

Figure 4. Cystic soft tissue mass in surgery

Figure 5. Excised soft tissue mass

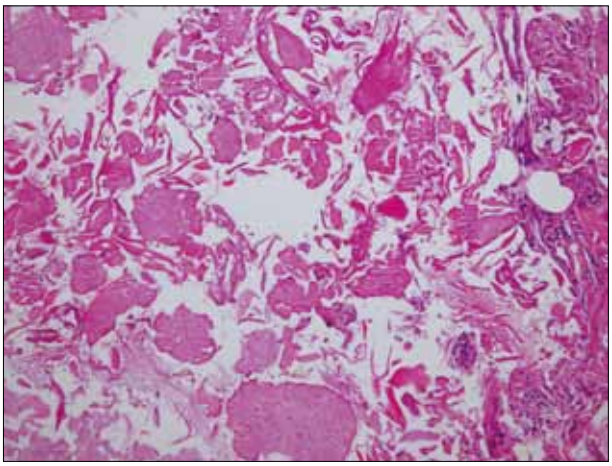

Figure 6. Cyst has a wall nearly similar to epidermis and is filled with laminated keratin (HE, ×200)

Ghani et al. [6] reported a case of severe heel pain that did not respond to noninvasive measures. MRI scan revealed a soft tissue mass, which was found to be an epidermal cyst after a complete surgical excision. The patient experienced full resolution of symptoms after excision of the epidermal cyst. There was no development of trauma, and in the pathological diagnosis was epidermoid cysts in our case identically as the case reported by Ghani et al. [6].

Matsumoto et al. [7] reported a 44-year-old woman admitted to the authors' institution for evaluation of two masses in the right forefoot. Standard radiographs showed foci of calcification within the mass. MRI scan and macro-

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scopic findings detected during surgery revealed that the lesion was composed mainly of two different compositions: dorsal cystic masses and a solid mass in the plantar side of the fifth metatarsal head. Histologic and immunohistochemical examinations showed that the former was an intermetatarsophalangeal bursitis induced by keratinous material, whereas the latter was a ruptured epidermal cyst. There was no formation of bursitis because of epidermoid cysts rupture in our case. Bursitis as a result of epidermoid cysts rupture must be thought in the differential diagnosis.

Ferguson et al. [8] reported a case of epidermoid cyst formation following the Topaz coblation for plantar fasciitis. There was no history of treatment modality for foot in our case. Early treatment modalities must be learned before surgery.

Başterzi et al. [9] reported a 23-year-old woman with a painless tumor-like 6.5×5.5×5.5 cm mass in the right forefoot that was totally excised; histological diagnosis was epidermoid cyst. The size of the epidermoid cyst that we excised was smaller than that reported by Başterzi et al. [9]. Also, a large volume epidermoid cyst can be seen.

The epidermoid cyst should be in the list of differential diagnosis for a large soft tissue mass of the foot and surgical excision must be done in appropriate limits.

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Џиновска епидермоидна циста стопала

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КРАТАК САДРЖАЈ

Увод Епидермоидна инклузиона циста обично је састављена од епидермалних елемената имплантираних у дермалне слојеве. Болесници с израслином се обично виђају у клиничким амбулантама. Већина их се жали на механичке и естетске проблеме.

Приказ болесника Жена старости 34 године примљена је на нашу клинику због отока и болова у десном стопалу. Палпирањем је откривена поткожна маса у регији између прва два ножна прста. Рендгенским снимком стопала се није видела коштана лезија. Налаз магнетне резонанције је открио масу меког ткива у регији између прва два ножна прста. Извршена је ексцизија масе меког ткива, а узорак је упућен на патолошку анализу. Према патолошком налазу, у питању је била епидермоидна циста величине 5×2×1,5 *cm*. Током шестомесечног периода клиничког праћења после операције код болеснице није дошло до компликација. Жена више није имала проблем израслине у стопалу и приликом контролног прегледа није се жалила на било какве додатне проблеме.

Закључак Потребно је да се у диференцијалној дијагнози размишља и о могућности епидермоидне цисте код налаза велике масе меког ткива, а хируршка ексцизија треба да се уради унутар адекватних граница.

Кључне речи: епидермоидна циста; стопало; табани

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