A giant epidermoid cyst in the hands

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ABSTRACT

This article describes an atypical localization of a giant epidermoid cyst on the thenar area of the right hand. A 54-year-old male patient presented to our clinic with recurrent hypoesthesia in the thumb. There was a painful 4.5 cm-diameter lesion on his right thenar area. After diagnostic tests, the lesion was excised with its capsule, and sent to the pathology department. The histopathological result was reported as an epidermoid cyst. There was no complication, such as pain, numbness in the thumb, infection, finger movement disorder, or undesirable scar formation, on the skin. Epidermoid cysts should be kept in mind in the differential diagnosis of tumors of the hand.

Key words: Epidermoid cyst, hand, tumor, thumb

Introduction

Implantation dermoids and inclusion, epidermal inclusion, epithelial, keratin, implantation, sebaceous, and traumatic and post-traumatic epidermoid inclusion cysts are known as epidermoid cysts [1]. The term epidermal inclusion refers specifically to an epidermoid cyst, which is the result of the implantation of epidermal elements into the dermis [1, 2]. As most of these lesions originate from the follicular infundibulum, the more general term epidermoid cyst is favored. Epidermoid cysts commonly occur in the subcutaneous soft tissues, and occasionally in intratendinous, subungual, or intraosseous locations [1-4]. The wall of the cyst resembles a balloon that projects down into the dermis. This balloon, or cyst wall, produces keratin, and is filled with a white, cheesy, firm material [5]. Less frequently, cysts may become inflamed or infected, causing pain and tenderness [4]. In the uncommon event of malignancy, rapid growth, friability, and bleeding may occur.

Epidermoid cysts may occur at any age. However, they most commonly arise in the third and fourth decades of life [4, 5]. Epidermoid cysts are most common (in descending order of frequency) on the face, neck, trunk, extremities, and scalp [2, 4]. Rare cases of epidermoid cysts occurring in the bone, breast, and various intracranial locations have been reported [3, 4].

In this article, a 54-year-old male patient was reported with a giant epidermoid cyst on his right thenar area.

Case Report

A 54-year-old male presented with a long-term painful lesion on his right thenar area (Figure 1). The cyst had enlarged slowly, and the patient had experienced intermittent pain and hypoesthesia of the thumb over the previous 10 years. There was no fever or night

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pain. The swelling was soft, cystic, and mildly tender with limited mobility. Ultrasonography revealed a 4.5-cm hypoechoic mass with surrounding vessels and smooth edges. The patient underwent total deep surgical excision and simple closure under local anesthesia with conservation of the muscles of the thenar area and the digital neurovascular bundles. The macroscopic surgical excision biopsy was a 4.5-cm diameter, firm, red and white cystic lesion (Figure 2). Microscopic analysis of the cystic structure revealed keratin, and the cyst was lined with benign, stratified squamous epithelial cells.

The patient was followed-up for six months, and there was not any recurrence, undesirable scar formation, or limitation in the movement of the thumb (Figure 3).

Discussion
Epidermoid cysts have been well studied, and the natural history of the disease has been well described. Epidermoid cysts are usually asymptomatic. Less frequently, they can become inflamed or infected, resulting in pain and tenderness \[4, 5\]. On the basis of its localization on the thenar area and the volar aspect of the hand, a cyst may give rise to paresthesia of the fingers. When the cyst expands, movements of the fingers may be impeded. The presenting symptoms mainly depend on the location and the effect of the lesion or mass, rather than the natural disease process.

Epidermoid cysts have been rarely reported in the literature \[1, 3\]. Although much has been written about them, there have been few reports of epidermoid cysts occurring on the thenar area of the hand \[1\]. In the present case, the cyst was seen on the thenar area of the hand. In addition to its atypical location, the cyst was also large for an epidermoid cyst.

The differential diagnosis of an epidermoid cyst includes various type of tumors, such as a ganglion cyst, chronic infection, mucoid cyst, foreign body granuloma, gouty tophus, giant cell tumor, lipoma, hemangioma, glomus tumor, schwannoma, neurofibroma, and even a metastatic lesion \[1, 3, 6\]. The differential diagnosis in the hand also includes a giant cell tumor of the tendon sheath and a fibroma of the tendon sheath \[1, 3\]. In cases of prior trauma and where the mass is in the typical location of an epidermoid cyst (i.e., the volar aspect of the hands or fingers), the diagnosis of an
epidermoid cyst is clinically apparent. For cysts located on the dorsum of the hand or in cases without a history of trauma, the diagnosis is not always evident. In such cases, magnetic resonance imaging is the diagnostic imaging modality of choice [2].

Asymptomatic epidermoid cysts do not need to be treated. An intralesional injection of triamcinolone may hasten the resolution of inflammation. Oral antibiotics may occasionally be used. Surgical excision could be performed in symptomatic cases and should include surgical removal of the cyst and the wall of the cyst [5]. If the entire cyst wall is not removed, the lesion may recur [1]. Excision with a punch biopsy technique may be used if the size of the lesion permits minimal incision surgery. Reduced scarring has been reported with this method. In the presented case, the cyst was removed with meticulous dissection to prevent damage to the thenar muscles and digital neurovascular bundle, and the skin was sutured primarily.

Finally, epidermoid cysts are common causes of masses in the body. In the differential diagnosis of masses in the hand, the surgeon should be able to suspect these cysts.

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**Statement of Human and Animal Rights:** This article does not contain any studies with human or animal subjects.

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