Palmar epidermoid inclusion cyst mimicking Dupuytren’s contracture

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ABSTRACT

Epidermoid inclusion cyst in palmar localization is very rare. We present an unusual case of palmar epidermoid inclusion cyst which causes Dupuytren-like contracture in hand. A 32-year-old male patient was complaining of the traction feeling of the mass. The mass was excised surgically, it was a hairy nodule like structure and reported as epidermoid inclusion cyst. Cystic lesions are very common masses. However epidermoid inclusion cysts in the palmar region are important because they may arise from the eccrine ducts and may be relevant with HPV infections. Thus, HPV screening should also be done in such a case.

Key words: Palmar fascia’s contracture, Dupuytren’s contracture, epidermoid inclusion cyst

Introduction

Many cystic and nodular structures can be observed in the palmar region. Dupuytren's nodules, ganglion cysts, and tendon sheath-induced tumors are the most common structures in palmar side of the hand [1,2]. Epidermoid inclusion cysts are frequently observed in hairy areas such as scalp, face, neck, and scrotum [3,4]. However, they are rarely found in the palmar region [4]. One of the most important features of palmar epidermoid inclusion cysts is the presence of human papillomavirus (HPV) infection in the etiology [5,6]. We aimed to present a rare palmar epidermoid inclusion cyst case that caused a Dupuytren-like contracture in the palmar region of the hand.

Case Report

A 32-year-old male patient presented with a palmar nodule that had been for four years and had grown in the last six months. The mass was painless, but the patient was complaining of the feeling of traction and discomfort. The patient's history did not reveal any specific features. There was no known disease or medical therapy. There were not any previous surgery or trauma to the palmar region. A fibrotic nodule-like structure with limited mobility, which caused mild contracture...
in the distal palmar area, was encountered on physical examination (Figure 1).

To excision of the nodule, the skin incision was planned as Z-plasty flaps with the aim of releasing the skin contracture (Figure 2). The excised mass was a follicular-like cystic mass and containing a few hairs (Figure 3). The skin was sutured according to Z-plasty flaps. Pathologically examined mass was reported as epidermoid inclusion cyst. The patient was screened for HPV, and it was negative.

**Discussion**

Cystic lesions are very common masses in hand, and synovial cysts, ganglion cysts, and tendon sheath cysts are constituted nearly the 50-70% of all soft tissue masses of the hand [1]. However epidermoid inclusion cysts are extremely rare [4].

Epidermoid inclusion cysts occur via penetration and implantation of epidermal structures into the dermis [7]. Another theory for the development of these cysts is the cystic ectasia of the hair follicles. Thus, they are frequently seen in hairy areas such as scalp, neck and scrotal area. However, this theory does not explain the existence of palmar epidermoid inclusion cysts in a hairless area. Recent studies have shown that the cyst walls are adjacent to the eccrine ducts and suggesting that they may be originated from these ducts [4,7]. Since the palm is an exposed area for traumas, an old trauma or a foreign body penetration may cause epidermoid inclusion cysts. In our case, it is fascinating to mention a hair-containing palmar cyst because there is no patient's history related to trauma or foreign body penetration or both. Thus, we consider that this hairy, palmar epidermal inclusion cyst is congenital and formed in the embryological period. Trapped ectodermal components may be the primary cause of this uncertain situation.

Some authors claim that magnetic resonance imaging (MRI) provides detailed information about the structural characteristics and exact anatomical location of these masses. However, we believe that MRI examination does not provide any additional cost-effective information for a mass as presented in this case [8]. Ultrasonography (USG) can be used in cystic masses. However, physical examination of the presented case did not reveal any mass or a space-consuming structure that needs a USG.
One of the recommended methods for diagnosis is the fine needle aspiration cytology [9]. However, aspiration in small cystic structures as in our case can cause the cyst content to be completely evacuated, leaving only the cyst wall and making excision difficult. Thus, direct excision was planned in this case. We propose to perform the excision by using the Z-plasty technique when Dupuytren-like contracture is formed, and the skin needs to be extended as in the presented case.

It has been observed that the palmar epidermoid cysts previously described in the literature have a prominent structure in the form of a true cystic mass that is smoothly limited and mobile [4,10]. The presented cyst is a non-prominent existence with no real tumoral mass effect. Besides, it has also caused the palmar fascia's contracture. For these reasons, fibromatosis was considered in the differential diagnosis.

HPV infection has been shown to be associated with palmar epidermoid inclusion cysts, although it is not commonly encountered diseases in hand surgery [5-7]. In our case, HPV infection was screened but not detected postoperatively. Thus, it can be suggested that when palmar epidermoid inclusion cysts are detected, HPV infection should be screened.

Conclusion

Palmar cystic masses may present with palmar contractures and they should be differentiated from Dupuytren's contracture. Radiologic examinations may not be useful, and these embryological cysts should be excised totally. Also, it is necessary to follow up the pathological result and patient should be screened for possible HPV infection.

Conflict of interest statement

The authors have no conflicts of interest to declare.

References