A mobile mass in the wrist and palmar regions: A case presentation

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ABSTRACT
This paper presents a rare case of a mass located on the volar face of the wrist, which translocated to the palmar region under pressure. An examination revealed a 3x3 cm mass on the palmar face of the wrist that was painless and soft on palpation. A region measuring 2x2 cm on the skin of the palmar region whitened when pressure was applied to the mass. The mass was removed and a pathological examination confirmed the presence of a cystic foreign body reaction secondary to the presence of wooden foreign bodies.

Key words: Mobile mass, hand and wrist mass, cystic foreign body reaction

Introduction
Foreign body granulomas are post-traumatic reactive masses that are among the most frequently encountered lesions on the palm of the hand [1,2]. They develop as a response of the organism to implanted foreign bodies, and tissue reactions may vary depending on the nature of the foreign body, the anatomical region, the duration of exposure, or the presence or absence of excessive tissue sensitivity to the foreign body. In such cases, upon recognizing the presence of a foreign body, the host organism attempts to isolate it. The objects most commonly found at the root of foreign body reaction masses include glass, wood, and metals, which generally present as surface lesions or masses with little pain or slight sensitivity, although such lesions may also show signs of infection. The majority of such cases have a previous history of penetrating injuries and this information, alongside such imaging methods as radiography or ultrasonography, may help in identifying the foreign body, thereby throwing light on the etiology [1-5].

This paper presents a rare case of a mass located on the volar face of the wrist, which translocated to the palmar region under pressure.
Case Report

A 30-year-old male patient was referred to our clinic with a mass on his right wrist, which he had for four years. An examination revealed a 3x3 cm mass on the palmar face of the wrist that was painless and soft on palpation (Figure 1). A region measuring 2x2 cm on the skin of the palmar region whitened when pressure was applied to the mass (Figure 2). The patient explained that a piece of wood had penetrated his hand five years ago, and that he had removed part of the piece himself, bandaged it and allowed it to heal spontaneously. The patient had no complaints within the initial year after the trauma, although he reported the presence of the painless mass on his hand for the last four years, claiming that it had not grown any further. An ultrasonography revealed a fusiform cystic lesion measuring 3x8 cm with a foreign body inside, progressing continuously into the palmar region of the wrist and hand. The patient was operated upon under axillary blockage using a pneumatic cuff. The mass was explored through an incision performed on the mass from the ulnar region of the wrist. The mass, which was found to be cystic, crossed under the flexor retinaculum and reached the palmar region over the transverse carpal ligament. Hence, a total excision was performed (Figure 3). The removed specimen was opened, revealing cyst fluid, as well as wooden splinters. A pathological examination of the mass confirmed the presence of a cystic foreign body reaction.

Discussion

This case presentation demonstrates that a foreign body penetrating the palmar region as a result of a penetrating trauma can remain in place for a long period of time without causing pain, and can subsequently transform into a mobile mass. Although the patient suspected the presence of a foreign body in his hand, he delayed treatment, as the wound had healed without causing any pain or inflammation. This led him to delay referring to any healthcare institution for a period of five years. A physical examination showed that the mass disappeared upon pressure, with the palmar region whitening, indicating that the mass reached the palmar region and was interconnected. Additionally, the whitening and plumping in the palmar region suggested that the lesion was cystic and mobile.

Penetrating hand injuries should alert one to the potential presence of a foreign body; therefore, a complete anamnesis should be obtained from the patient. The presence of a foreign body should be assessed by X-ray or ultrasonography prior to operation or surgical exploration, which should not be shied away from when required. Previous studies have shown that only 0–15 percent of wooden foreign bodies can be detected.
through radiographic techniques [6]. In cases where such techniques are insufficient, an advanced examination can be conducted with computerized tomography and magnetic resonance imaging. Occasionally, the foreign body may not be detectable at first sight due to the smallness of the laceration or the absence of a radio-opaque material. In such cases, the clinical representation and medical history of the patient will be very helpful [1,5-8].

Particularly in cases where the patient or the relatives of the patient report no history of trauma, it may be difficult to identify a foreign body granuloma. Cases without a known history of previous trauma and the absence of a foreign body through radiological imaging may easily lead to a diagnosis of a primary soft tissue tumor [1-4].

The morphology of a foreign body granuloma may vary according to the type and size of the foreign body and the site of the trauma. Foreign bodies that are embedded in soft tissue can result in pain, toxic and allergic reactions, and inflammation and infections, while those with sharp edges can penetrate tissues, potentially causing tendon and nerve damage. Deep soft-tissue infections, septic arthritis, periostitis and osteomyelitis may develop after wood splinter injuries. In some cases, the problem may remain dormant for years, with no apparent symptoms, but may finally manifest clinically as a foreign-body granuloma resembling a primary soft tissue tumor [6-9].

In this reported case, a cystic foreign body reaction had developed around the foreign body. The cystic mass caused no nerve pressure symptoms, as it was located on the transverse carpal ligament, while the majority of the mass was situated in the forearm region.

Foreign bodies in the hand can result in the development of a mass, which can be easily confused with soft tissue tumors. In this regard, it is important that the trauma history be investigated, as foreign body granulomas should be eliminated in cases with such lesions.

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