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Tendon Sheath Giant Cell Tumour at the Dorsum of Foot - A Case Report of an Unusual Localization

Dr. R. Sarmah, Dr Kamal Nayan, Dr Kumariyoti Deka

Department of Orthopaedics, GMCH, Guwahati. Assam, India

Abstract: ***Introduction and importance: In addition to describing the diagnostic standards and therapeutic care, the aim of this research is to draw attention to a rare entity in a unique place and to reflect our therapeutic attitude in this respect. Case presentation: We discuss a woman's case who is 45 years old and has swelling on the right foot's dorsum, Initially ignored by the patient, the condition has evolved and is now characterized by pain while wearing shoes, it was a firm mass of 2.5x2x1 cm³ somewhat painful without local inflammatory signs having a normal appearance on the radiography, our approach was tumor excision while preserving the tendon, the FNAC examination suggested an impression of huge cell tumor of the tendon sheath and with advice of excision biopsy and HPE for confirmation. Clinical discussion: The tendon sheath giant cell tumor typically exists as a firm, slow growing mass; radiological evaluation reveals erosions of bone: It is necessary to have an MRI for histological confirmation and extension evaluation; Despite being rare, malignant degenerations must always be explored; and adjuvant radiotherapy, which could be used in cases of incomplete resection but is a contentious topic. Conclusion: Due to the invasion of adjacent structures, benign GCT may become locally malignant, making full removal challenging. The diagnosis needs histological confirmation and is supported by clinical and radiographic criteria.***

Keywords: Giant Cell Tumour. Synovial Sheath. Foot. Case Report

1. Introduction

Anatomical structures like the tendon sheath, synovium, and bursa can develop neoplastic clonal transformations which are typically benign proliferation and infrequently metastatic. Since these tumors have little chance of cancerous growth, surgery is the only option for treatment, ideally a broad resection if it is possible. This indicator may not always be appropriate due to the location. It is highly uncommon for a huge cell tumor to be localized in the dorsum of the foot. The hands are where they are most often seen (80% of the time), where they are the 2nd common soft tissue tumor after arthro - synovial cysts. They are normally single, however, their size might vary based on the patient's time of appointment. They are benign tumors that occasionally exhibit localized malignancy and often recur. We present a case in which a young lady was found to have a tendon sheath giant cell tumor. We investigated the therapeutic, prognostic, and diagnostic sides of the condition.

2. Case Presentation

The example of a 45y/o female with no prior history in the field of medical is presented. Without any trauma, inoculation with a foreign substance, or recent decline in general health, she complained of swelling in the dorsum of her foot for a year that grew progressively in size and became unpleasant when she put on shoes.

The patient had a small limp upon being examined. The swelling was on the dorsal surface of the first web space, hard, somewhat painful to palpate, fixed in reference to deep planes, and the skin above the swelling was movable with a 3cm long axis, enclosing the extensor tendon. There were no local inflammatory symptoms or skin lesions. Additionally, there was no sensory - motor deficiency, no bone discomfort, and instantaneous CRT. The radiograph of the foot showed clear and normal, with no cortex rupture. A tendon sheath giant cell tumor was suggested by a cytopathology study. We then decided to have a senior surgeon do surgical excision, and a sample was submitted for HPE confirmation. Following surgery, we advised using a Below - knee slab for 6 weeks to unload the forefoot.

3. Discussion

A benign tumor with a sex ratio of 0.5 that disproportionately affects women is the giant cell tumor. The third to fifth decade is when the age of occurrence occurs most often. They are found in 1.6% of soft tissue cancers.

Most typically, this tumor is seen in the hands. It often has a tendency to localize in the forefoot even when it is seen in the lower leg. It follows ganglion cysts as the second most frequent hand tumor. The very rare involvement of the dorsum of the foot is well covered in literature.

The tendon sheath lesions may be extra or intra - articular, localized, or widespread, but the maximum typical clinical manifestation is a node in the hand, which in 93% of cases occurs in the three radial fingers.

Due to the variability in the tumor's location and rate of growth, the clinical presentation of this condition is exceedingly unpredictable and nonspecific. It manifests as a painless, hard, slowly expanding mass in the hand, sometimes accompanied by fever, periarticular effusion, or oedematous swelling. It may resemble meniscal syndrome when felt in the knee.

They mostly affect the digits tiny joints, particularly the fingers interphalangeal joints close to the sheaths, which are often on the surface of the volar. Other places like the wrist, toe, and hip are relatively uncommon.

Before the convergence of multiple reasons, the diagnosis must be taken into account: young patient with characteristic hand localization, single joint invasion, gradual progression,

and absence of other synovial disease symptoms (gout, polyarthritis, incipient hemophilic arthropathy).

X - rays are required, and in 33% of cases, bone abnormalities can be seen. Standard radiographs may also reveal a variety of non - specific radiological abnormalities, such as soft tissue masses, degenerative lesions, and bone erosions. In the hand and hip. cystic erosions are more prevalent and alarming.

MRI must be carried out after the diagnosis is assumed on the basis of clinical information and X - ray results. This is a powerful and practical technique to describe the tumor and gauge its soft tissue expansion. At T1 and T2, the tumor often exhibits a decreasing signal intensity. The majority of patients in the De Beuckeleer et al collection displayed muscle isointense signal, which is unusual in extraarticular masses of soft tissues. Due to the same radiologic features, this tumor was once known as extra - articular PVNS (Pigmentary Villonodular Synovitis). Today, before moving forward with our final diagnosis the PVNS is the 1" differential diagnosis to be taken into account. The huge cell tumor diagnosis of the synovial sheaths may still be made using the histological analysis of the surgical material that was removed. They are characterized by the growth of multi - nucleated huge cells, synovial - like cells, siderophages, inflammatory cells, xanthoma cells, and histiocytes linked to foamy macrophages, as well as hemosiderin deposits.

Although uncommon and infrequently described in the literature, malignant degenerations should always be examined. The lung and lymphatic nodules have both been characterized as sites of metastases, and degeneration may be clinically suspected in the presence of widespread infiltration of soft tissues. Giant cells, macronucleoli, nucleomegaly, a noticeable nucleolus, a great nuclear - cytoplasmic ratio, tumor necrosis, and a significant mitotic count are all seen in histology. Similar to sarcomas, a malignant degeneration necessitates a significant excision. The most thorough tumor removal possible is the foundation of its treatment approach to reduce the chance of a local recurrence. A marginal excision is necessary for a limited form, and a re - excision may readily manage recurrence in these forms. In this situation, an arthroscopic resection is a fantastic choice. Additionally, it was mentioned that these lesions' symptoms are improved by surgical care. In the literature, there is debate regarding the use of postoperative radiation; Gouin advocates using adjuvant radiotherapy in situations of inadequate resection or even to prevent recurrence. In situations of partial excision or the existence of mitotic figures on histological involvement and inspection of bone, Kotwal et al. advised postoperative irradiation of 20 Gy in split daily doses of 2 Gy: they did not, however, advise preventative radiotherapy. Adjuvant radiation is not shown to affect long - term outcomes, according to other writers, who also demonstrate that the risk of recurrence is still there. According to Ushijima et al research of the risk factors for tumor reappearance, the existence of an adjacent degenerative joint lesion, position in the interphalangeal joint of the thumb or finger's distal end, osseous pressure erosion radiographic evidence, anthropometric information, and dorsal or volar location have no bearing on the possibility of recurrence. According to Yasuyiki et al., tumor excision is advised with meticulous pre - operative planning and surgical microscope utilization, along with the removal of at least Imm of breast tissue around the tumor. It's also vital to carefully dissect the surrounding soft tissue while visually examining its color. Any questionable tissue has to be removed. Because of joint damage and a higher local reappearance rate, which may range from 33%, this tumor has a dismal prognosis in terms of function. The unusualness of the tumor's location in the dorsum of the foot is what makes our case unique.

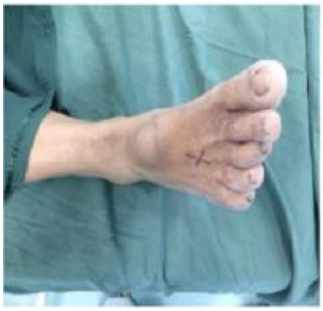
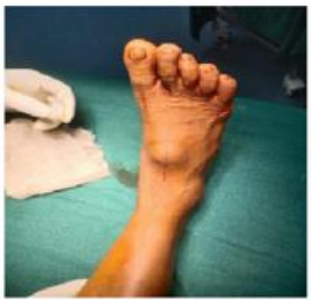
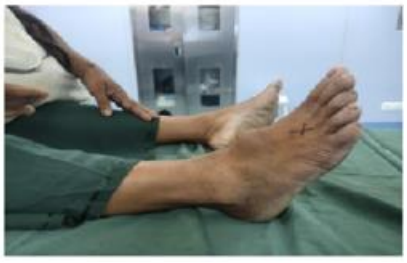
4. Conclusion

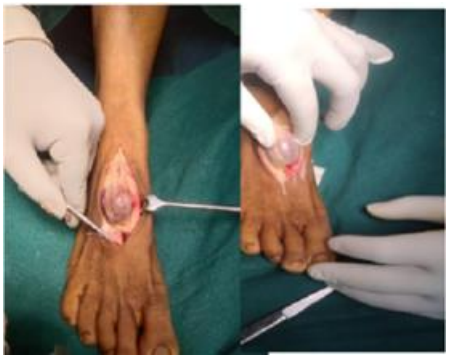
Because of noble structures invasion, giant cell tumors of the synovial sheaths are benign tumors having a slowdown progression and limited malignancy. The location of this tumor in the lower leg is uncommon, and the difficulty of performing a full excision during resection is a therapeutic challenge, contributing to the great possibility of reappearances.

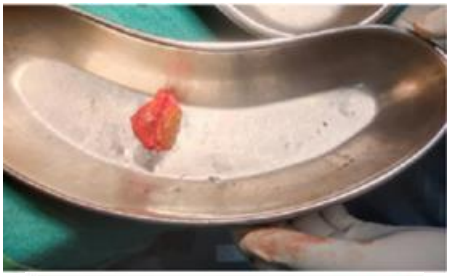
Consent statement
The patient's written informed consent was obtained in order to publish this case report and any associated images.

Ethical approval
An ethical review of the research is not required.

Disclosure of conflicting interest
There are no stated potential conflicts of interest by the author (s).





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