

Case Report

Intraluminal capillary hemangioma of the foot presenting clinically as a neuroma: A case report

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ABSTRACT

Capillary hemangiomas are rarely seen in the foot, especially in the deeper soft tissue compartment. If left untreated, they can give rise to benign soft-tissue tumors. A rare case of a capillary hemangioma on the right dorsal medial midfoot that, because of its location adjacent to the saphenous nerve, mimicked the signs and symptoms of a neuroma. In addition, the patient had a history of previous surgery for neuroma excision at the same location. Despite the strong suggestion of another recurrence of a neuroma, a careful workup, including the use of MRI and multidisciplinary consultation was implemented to rule out a possible malignancy. Its nature was confirmed by careful biopsy and histopathological findings prior to surgical resection. This case illustrates how a benign vascular lesion could elicit nerve-related pain in the foot and should be distinguished from malignant tumors, such as soft tissue sarcoma, prior to surgical planning.

1. Introduction

Vascular lesions, such as capillary hemangiomas, are rare in the foot and ankle. This study aims to present the unique case of a growing mass on the foot of an otherwise healthy female patient [1]. The mass found on the patient's foot had been present for two years prior to her initial clinical visit. Although the patient reported localized pain, she was more concerned with the burning, tingling sensation from her foot.

2. Case report

A healthy 49-year-old woman came to the podiatric clinic stating that for the past two years, she had been aware of a “lump” on the right dorsal medial midfoot (Fig. 1). She went on to claim that the lesion had not grown in size during the past year, but she felt localized pain when walking. She denied any history of trauma to the area.

Upon physical examination, a firm and mobile palpable nodule was noted at the right dorsal medial midfoot. The lesion was tender upon palpation and associated with a shooting, burning pain, along with a “pins and needles” sensation (tingling paresthesia). The Tinel's test was positive in response to a light tapping over the lesion. Three X-ray images of the right foot were obtained and showed normal findings.

MRI findings were not suggestive of adjacent soft tissue and bony pathology. The patient was then referred to a sarcoma specialist. The sarcoma specialist and an interventional radiologist performed a core needle biopsy. This biopsy tract was planned and created over the

lesion so that it would be resectable at the time of tumor excision.

Based on the report of the sarcoma surgeon and interventional radiologist, the lesion was a solid, non-compressible mass measuring at 6 mm × 4.8 mm in the transverse dimension and 12.5 mm in length. There was no evidence of increased vascular flow to the lesion or the surrounding tissues based on the ultrasound findings. The core image-guided core biopsy then confirmed the diagnosis as intraluminal capillary hemangioma. Thus, we were recommended by all the specialists in the patient's care to surgically excise the mass.

3. Management

A 4.5-cm longitudinal incision was made over the medial cuneiform and extending to the distal aspect of the first metatarsal. The incision was taken down to the subcutaneous tissue with blunt dissection. The soft tissue mass was fully contained within the subcutaneous tissue with a bulbous appearance and a slight purple tinge in the deep central section (Fig. 2). Care was taken to resect the lesion from the surrounding soft tissue without damaging the saphenous nerve in both the proximal and distal directions. The specimen was then sent for a histopathological analysis, which identified the mass as a capillary hemangioma. The characteristic of this pathology includes the proliferation of numerous single celled endothelial cells leading to the formation of many capillaries. Often the lumens of the capillaries may contain red blood cells due to thrombosis (Fig. 3).

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Fig. 1. Intraoperative photo showing the soft-tissue mass dissected from the dorsal medial aspect of the midfoot. The mass had a bulbous, purple appearance and rubbery texture (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article).



Fig. 2. Dissected soft tissue mass measuring 3.5 cm × 3.5 cm × 1.0 cm (For interpretation of the references to colour in the text, the reader is referred to the web version of this article).

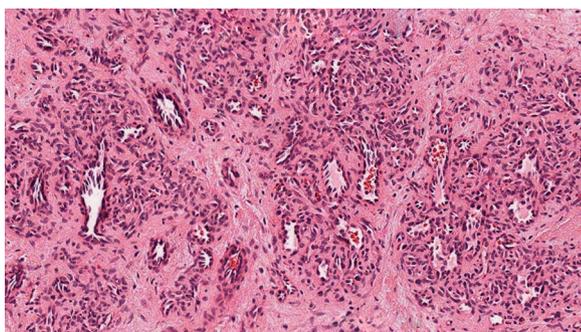


Fig. 3. Histological section in H&E (hematoxylin and eosin) stain, 40 × .

4. Results

During the 12-month follow-up visit, the patient had no pain and the surgical scar appeared to have healed. Moreover, no recurrence of the lesion had been noted and her tingling paresthesia and burning sensations had resolved.

5. Discussion

A capillary hemangioma, which is a type of benign vascular tumor, is a rare condition that can give rise to a tumor in the soft tissue [2]. It is

estimated that only 7% of all soft-tissue tumors are hemangiomas [3]. Oftentimes, these are located in the skin, dermis, or subcutaneous tissue, whereas only a small number lie in the deeper soft-tissue compartment. Superficial hemangiomas are often found during childhood and present themselves as cherry-red hemangiomas [4]. Hemangiomas located in deeper spaces are rare (0.8%) and present with localized pain and discomfort to the area surrounding the lesion [5]. Further, they are often difficult to diagnose due to its clinical presentation. These hemangiomas can mimic malignancy and the majority of these lesions are locally invasive and have high rates of recurrence. In a review of 178 cases, Patrice et al. found that 64.4% of the cases were in the head and neck, 19.7% in the trunk, 12.9% in an upper extremity, and only 5.0% in a lower extremity [6]. The etiology of this condition is unknown; however, based on 600 hemangiomas, Lampe and Latouretter found that 61% were present at birth and 86% developed during the first month after birth [7].

Some lesions remain in the epidermis, starting out as a macule and evolving into a papule, with variable color ranging from dark blue to purple. Papules often erupt through the epidermis and cause bleeding, while others remain attached to the stalk. As well, some lesions found in the subcutaneous tissue are solid and moveable, while others are intraosseous, as observed by Davies et al., who described a case of capillary hemangioma that caused bony erosion in the midfoot [5].

The average age of incidence ranges from 30–60, with peak incidence at the age of 40. There is a high female-to-male incidence ratio; 2:1 according to some reports and 4:1 according to others [4].

Our case presented here is unique because the patient reported three incidences of surgery in the same region of the foot over the last 30 years, including one for neuroma excision. No medical records or detailed information regarding the surgery was made available to us, as they were performed by other healthcare providers. When she presented to the clinic complaining that the nodule would elicit spontaneous tingling paresthesia and numbness on the dorsal medial aspect of the midfoot extending to the tip of the great toe, our immediate diagnosis (in light of her history) was that this was another episode of the neuroma. However, based on the history of three past similar occurrences, this case was treated with caution as a soft-tissue sarcoma simply until proven otherwise.

NICE guidelines dictate that any lesion greater than 5 cm growing in size and painful should be treated as a soft-tissue sarcoma and should be referred to a sarcoma clinic for further evaluation [8]. NCCN (National Comprehensive Cancer Network[®]) clinical practice guidelines in oncology recommend a multidisciplinary team approach in the management of soft-tissue sarcoma [9]. Even though the lesion was not growing in size over the last two years and is less than 5 cm in size, we believe it is worth ruling out malignancy even though soft-tissue sarcoma represents less than 1% of all malignant tumors [10].

6. Conclusion

This rare case is an example of how a recurrent neuroma, with its classical symptoms, can mislead medical professions, prompting the patient and the surgeon to believe that the condition is the recurrence of a neuroma. Due to a careful work up, following the appropriate guidelines, and referring the patient to the sarcoma clinic to rule out malignancy, should all be standard practice before making decisions regarding surgical removal. Attention to practice guidelines and a multidisciplinary team approach to manage such tumors found in the lower extremity should always be considered.

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Conflict of interest

The author does not have any conflict of interest or financial disclosures to disclose.

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