Atypical Spindle Cell Lipomatous Tumor Under the Sesamoids in the Foot: A Case Report

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Abstract

Atypical spindle cell lipomatous (ASCL) tumors have a distinct histological and clinical presentation, rarely presenting in the foot. With the sub-sesamoidal location of this neoplasm found in our case report being an unusual location for atypical spindle cell lipomatous tumors to present, the purpose of our case report was to present the clinical presentation, histology/pathology, method of resection and outcome of our patient on follow-up to provide a framework for other surgeons on how to approach these neoplasms in the future.

Introduction

Lipomas are one of the most common soft tissue tumors in the body and typically present in areas that are abundant in adipose tissue. These neoplasms are typically benign and of mesenchymal origin, most commonly presenting in the retroperitoneum and subcutaneous soft tissues. These tumors have been reported in abundance throughout the body; however, their presentation in the distal extremities is rare and make up only a minority of soft tissue lesions found in the foot. A study by Berlin et al. analyzed over 67,000 soft tissue lesions in the foot and found that less than 1% of them were atypical spindle cell lipomas.

Case Report

A 60-year old female presented with intermittent sharp, shooting, burning, throbbing pain over the past year accompanied by a soft tissue mass under her left first metatarsal head that has grown in size over the past 6 months. The pain was worse with weight bearing and orthotics offered no relief of symptoms. Her past medical history was significant for adenomas, fibromas, appendicitis, and nephrolithiasis. Family history was significant for cancer from mother, father, and sister. The patient reported no current medications at that time. Her past surgical history included adenoidectomy, fibroidectomy, tonsillectomy, and an appendectomy. The patient reported a sulfa allergy, stated that she has 4 drinks per week, and denied tobacco and/or illicit drug use.

On physical exam, the patient had a palpable, non-mobile mass in the area of the sesamoids, under her left first metatarsal head (Figure 1). The patient had a preoperative MRI which showed some fatty deposition and some increased signal intensity on the fat suppressed images suggestive of slight vascularity along its peripheral margins. Differential diagnosis included: low-grade sarcoma, liposarcoma, chronic adventitial bursitis, or other sarcomatous lesions.

The patient denied any history of trauma and failed conservative care including: icing, shoe gear modification, NSAIDS, orthotics with a reverse morton pad, Shockwave therapy, and activity and life-style modification.

Procedure

Surgical technique included the patient positioned on the operative table in the supine position. A linear incision was made on the plantar medial aspect of the left first metatarsophalangeal joint and blunt dissection was performed. A visible mass was noted surrounding the sesamoids and care was taken to excise the mass in full without damaging any of the surrounding structures. The incision site was closed in layers using absorbable 3-0-vicryl suture for deep tissue, 4-0-monocryl for subcutaneous tissue, and 4-0 prolene to close the skin with a simple suture technique.

Post operatively, the patient was partial-weight bearing for 2 weeks in a CAM boot. The patient had complete resolution of the pain and symptoms on her first post-operative visit, which continued through the most recent follow-up two years later. Subjectively, post-operative results after excision of the soft tissue mass under the patients left first metatarsal head were completely resolved as compared to her pre-operative condition.

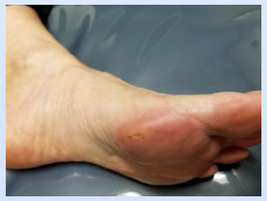

Figure 1. Preoperative picture of our patient's left foot, demonstrating the soft tissue mass present plantar to the sesamoids.

Pathology

The excised soft tissue mass was placed into a formalin-filled container and sent to pathology for histological analysis (Figure 2). The gross description of the soft tissue mass was described as a rubbery, firm, pink-tan and yellow 3.5 x 2 x 1.5 cm nodular soft tissue specimen. Longitudinal sectioning of the soft tissue mass showed thinly encapsulated homogenous white cut surfaces.

The final diagnosis, made by expert opinion of Dr. Christopher Fletcher, M.D., from Brigham and Women's Hospital, of the left foot mass was determined to be an Atypical Spindle Cell Lipomatous Tumor. Dr. Fletcher commented that the lesion showed no evidence of malignancy but does have a risk of local recurrence if incompletely excised. Although encapsulated, complete excision cannot be confirmed and monitoring for local recurrence was recommended.

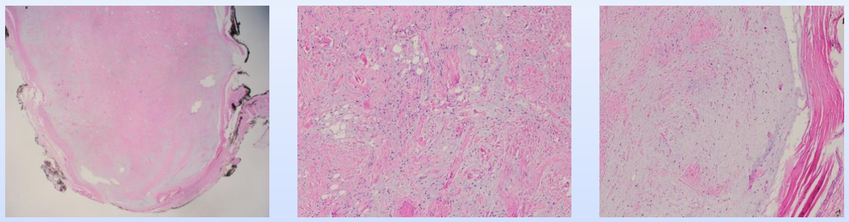

Figure 2. Slides demonstrating the histological analysis of the atypical spindle cell lipomatous tumor that was excised from our patient.

Discussion

Atypical spindle cell lipomatous tumors are uncommon tumors with even fewer cases of the foot reported in literature.[1,2] ASCL tumors are typically seen as a poorly marginated proliferation of mildly atypical spindle cells set in a fibrous myxoid stroma, with a variably prominent admixed adipocytic component showing variation in adipocyte size and scattered nuclear atypia, frequently with univacuolated or multivacuolated lipoblasts.[2]

Atypical Spindle Cell Lipomatous tumors of the foot can be quite debilitating. Our patient developed significant pain and swelling leading to an antalgic gait disturbance and decreased activity level. A complete medical and familial history is essential when a patient presents with a soft tissue mass as history of neoplasm seemed to correlate in our case report. The main goal of these procedures is to return patients to a pain free activity level. In cases of poor surgical candidates for elective excision, core needle biopsy is recommended to exclude malignant neoplasm.[3]

In conclusion, the clinical appearance, localization, histological, immunohistochemistry, and molecular characteristics should be considered together. It is important to perform careful dissection and ensure complete excision to reduce the risk of recurrence. Our method of treatment for atypical spindle cell lipomatous tumors produced excellent patient reported outcomes in short term follow-up. Further studies of these rare variants are needed to investigate long-term results, especially those arising in atypical sites as in our case.

References

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Disclosures

None.