

Case Report

Case Report: Embolization of Superficial Angiomyxoma of the Ankle

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Abstract

Introduction: Superficial angiomyxoma is a rare benign soft tissue tumor composed of a prominent myxoid matrix and numerous small and medium-sized, thin-walled blood vessels. **Aim:** The objective of the present study is to report a 42-year-old patient diagnosed with superficial angiomyxoma in the ankle, an unfavorable location for surgical removal, who underwent embolization with microparticles as an alternative treatment.

Case Report: Female patient with a painful nodule on the left medial malleolus, which had been growing progressively over the past four years. During the investigation, the MRI scan showed evidence of an expansile lesion with imprecise limits in soft tissues, with hyposignal on T1-Weighted sequences, hypersignal on T2-weighted sequences and contrast enhancement. A local biopsy confirmed the diagnosis of angiomyxoma. Due to the unfavorable location for surgical procedures, it was decided to attempt embolization of the lesion. Due to the good results of embolization and possible complications inherent to the surgical procedure.

Conclusion: Embolization is a valid alternative for reducing volume, relieving symptoms, reducing intraoperative bleeding and also as a single therapy in more complex cases.

Keywords: Embolization; Superficial Angiomyxoma; Ankle

Introduction

Superficial angiomyxoma is a rare benign soft tissue tumor composed of a prominent myxoid matrix and numerous small and medium-sized, thin-walled blood vessels [1,2]. It is usually located on the trunk, but can also appear on the lower limbs, head and neck [3]. It is more common in men and can affect individuals of any age. It presents as a slow-growing papule, nodule or polyp, asymptomatic or with symptoms related to local compression [2].

The definitive diagnosis of a superficial angiomyxoma is made exclusively by its histopathological study, but an imaging study with magnetic resonance imaging is usually performed before its excision, both to study some deeper lesions and to plan the surgery [1-5]. Local resection with free margins is the treatment of choice. Superficial angiomyxoma does not have metastatic potential, however, the probability of recurrence can reach up to 40%, with incomplete extraction being the main cause [1,3]. It presents as a proliferation of stellate spindle-shaped cells in a prominent myxoid stroma with a fine arborizing vascular network and low mitotic activity [4,5]. Histologically, superficial angiomyxoma is located in the dermis or hypodermis [5]. The tumor is usually lobulated and presents as a proliferation of stellate spindle-shaped cells in a prominent myxoid stroma with a fine arborizing vascular network and low mitotic activity [4,5]. The average time for recurrence of superficial angiomyxoma is 18 months [2,6]. Therefore, it is important for the patient to be under strict monitoring during this period [2,3,6]. The objective of the present study is to report a 42-year-old patient diagnosed with superficial angiomyxoma in the ankle, an unfavorable location for surgical removal, who underwent embolization with microparticles as an alternative treatment.

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Ethical Statement

The project did not meet the definition of human subject research under the purview of the IRB according to federal regulations and therefore, was exempt.

Case Report

Female patient with a painful nodule on the left medial malleolus, which had been growing progressively over the past four years. Physical examination revealed a poorly delimited bulge that was painful to palpation, with a fibroelastic consistency and approximately 8 x 6 cm in size. During the investigation, the MRI scan showed evidence of an expansile lesion with imprecise limits in soft tissues, with hyposignal on T1-weighted sequences, hypersignal on T2-weighted sequences and contrast enhancement. The lesion measured approximately 10.3 x 7 cm and was in close contact with the medial flexor retinaculum, tarsal tunnel and posterior tibial vessels. A local biopsy confirmed the diagnosis of angiomyxoma. Due to the unfavorable location for surgical procedures, it was decided to attempt embolization of the lesion. The procedure was performed with selective catheterization of branches of the posterior tibial artery using PVA microparticles measuring 45-150 microns. Control angiography images showed reduced local vascularization. The patient showed a significant decrease in the size of the nodule on both physical examination and control MRI and improvement in pain. Due to the good results of embolization and possible complications inherent to the surgical procedure (Fig. 1,2).

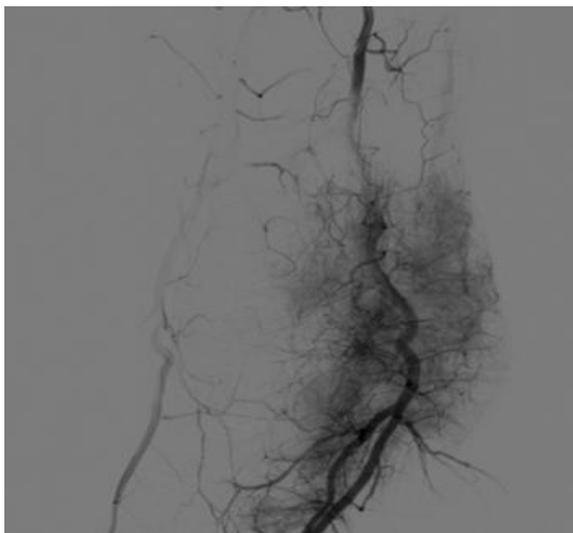


Figure 1: Pre-embolization arteriography surgical resection was contraindicated.

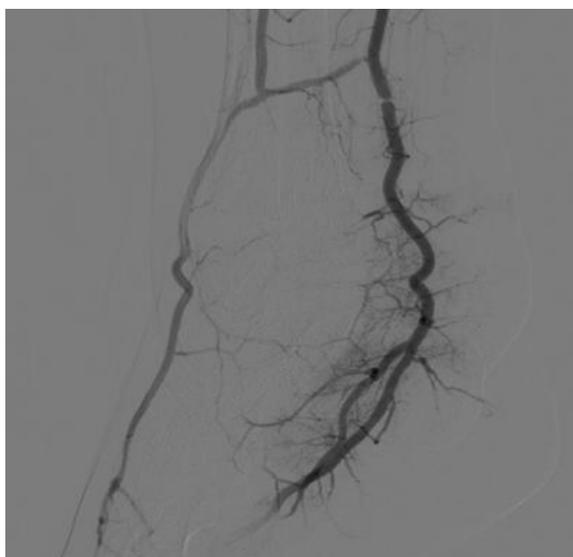


Figure 2: Post-embolization arteriography.

Discussion

This study reports a case of angiomyxoma in the ankle region where the therapeutic option was arterial embolization to reduce the size of the lesion due to the impossibility of surgical approach. However, this approach is not observed in the literature, but the patient had a satisfactory result and is currently being monitored to assess his progress over the years. The use of selective arterial embolization was first described in 1975 as a treatment to reduce bleeding during surgery in cases of bone tumors. Over time, it has expanded as an alternative treatment for other soft tissue tumors [7,8].

It currently has a wide range of indications, from curative treatment to palliation. The main indications for embolization are to reduce the risk of bleeding during and after surgery for hypervascularized tumors, simplify tumor manipulation, palliation of pain, bleeding, fever and symptoms similar to hypercalcemia in inoperable tumors, prevention of further spread of a tumor and increased response to chemotherapy and radiotherapy.

The primary goal of embolization is to achieve thrombus formation and occlusion by administering embolizing materials through a selective catheter placed in an arterial or venous vessel. Embolizing agents should be nontoxic, sterile, radiopaque and easy to prepare or obtain. Currently, the primary embolizing agents used are gelfoam, PVA particles, metal coils, pure alcohol, microfibrillar collagen, sodium tetradenafil sulfate and tissue glues [7,8]. Embolization aims to maintain ischemia and necrosis in the center of the tumor by occluding small distal branches within the tumor. Thus, a tumor will shrink, the borders between the tumor and the surrounding tissue will be clear and excision and operative manipulation will be easier [7,8].

Preprocedural planning with MRI, CT and ultrasound is essential, particularly in complex lesions to identify arterial blood supply, venous drainage, extension to adjacent tissues and proximity to vital structures that potentially share arterial supply [8]. Vascular mapping and hemodynamic status of the tumor as well as the anatomical region should be determined using selective angiography prior to embolization [8]. Arteries feeding the tumor should be catheterized superselectively and the procedure should be performed with the most appropriate embolizing agent so as to protect the hemodynamics of normal bone tissues as much as possible [7,8].

Embolization can be used alone or in combination with other treatments such as surgery, radiotherapy or systemic therapy [9]. Embolization procedures are performed under local anesthesia and sedation. Patients can usually go home the same day or the day after. Following the procedure, patients may experience mild discomfort, such as pain or cramping in the treated area and may need to take pain medication for a few days [9]. These treatments offer minimally invasive options for targeted tumor destruction and palliation, with less morbidity compared with conventional surgical procedures, and with the possibility of reembolization, if necessary.

Conclusion

Embolization is a valid alternative for reducing volume, relieving symptoms, reducing intraoperative bleeding and also as a single therapy in more complex cases.

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

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None.

Data Availability and Consent of Patient

All data generated and analyzed during this study are included within the article. The signed consent form by patient was received.

Author's Contribution

Concept and design: Guerra KP, Moreno BC, Brandi VM, da Silva SGC, Miquelin DG, Godoy JMP

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