

Right Elbow Angioleiomyoma: A Case Report & Review of the Literature

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Abstract

Angioleiomyoma are typically benign vascular smooth muscle tumors. These tumors are rarely seen in males as well as the upper extremities. A 49-year-old patient presented with a painful, fluctuant right elbow mass after a 5-6-year latency. In this case, aspiration as well as corticosteroid injection did not diminish mass size or pain caused by it. After exhausting conservative management, the patient opted for surgical excision, debridement, and histopathological analysis for diagnosis and showed the hallmark variable veins within muscular walls. Current standard of care consists of surgical resection and subsequent postoperative observation for local recurrence. Due to its rarity in location and non-specific findings, diagnosis is often unclear. In the context of existing literature, the optimal treatment for these patients should be determined on a case-by-case basis.

Keywords: Angioleiomyoma, Elbow, Surgical Excision

Introduction

Angioleiomyoma is a rare benign vascular smooth muscle tumor arising from the tunica media of vessel walls [1]. It can also be known as an angioma, vascular leiomyoma, or dermal angioma. The World Health Organization classifies angioleiomyoma in the pericytic (perivascular) benign tumor group. These tumors are uncommon in the elbow as there is paucity of smooth muscles in this anatomical region. They do not have any characteristic clinicoradiological findings however they are common in middle-aged women [2]. They usually occur in subcutaneous fat and fascia with greater preponderance in the extremities, particularly lower limbs such as the lower leg [3]. The treatment of choice for this tumor is excision, which is both diagnostic and curative. Few cases of malignant transformation have been reported and risk of recurrence is significantly low with complete excision [2]. We present a case of right elbow angioleiomyoma.

Case Presentation

A 49-year-old man presented to clinic complaining of right elbow swelling and pain for the past 5-6 years. There was no specific trauma, but the patient did recall bumping his elbow on many occasions. Radiography did not show any fractures, dislocation, subchondral sclerosis, or joint space narrowing [Fig. 1]. At presentation, the patient was experiencing mild olecranon bursal swelling, with the only point of tenderness along the mass itself [Fig. 2]. Closer examination showed no crepitation or pain with range of motion and no loss of sensation. Three milliliters of serosanguinous fluid were aspirated with an 18 gauge needle aseptically and atraumatically. A two milliliter corticosteroid injection of the right elbow was also given for pain control consisting of Depomedrol 40mg and Lidocaine. The patient returned to clinic 3 weeks later stating that

the swelling had recurred and never really disappeared. Physical examination revealed a similar presentation as before. The patient opted for surgical intervention for right olecranon bursectomy and olecranon mass excision. Intraoperatively, a 4 centimeter (cm) incision was made over the 2 cm x 2 cm mobile, compressible mass over the right olecranon. The mass was carefully dissected circumferentially and then sent to pathology. An excisional debridement of the olecranon bursa was then performed to help prevent recurrence and address the inflammatory process.



Figure 1: Right Elbow X-rays

The wound was thoroughly irrigated with saline, the subcutaneous space was closed with interrupted 2-0 Vicryl, and the skin was closed with 3-0 Monocryl subcuticular suture. Soft dressings were applied followed by a posterior splint. Pathology diagnosed the 2.5 x 1.8 x 0.7 cm tan-pink soft tissue tumor as an angioleiomyoma with focal thrombi, hemorrhage, and hemosiderin. Two weeks postoperatively, the patient was well-appearing and had minimal right elbow swelling and was neurovascularly intact distally. The incision was clean, dry, and intact. One month later, the patient continued to do well and had not had any recurrence of his tumor or fluid in the elbow. Physical exam showed resolved right elbow swelling and that the patient had been able to perform all activities without restrictions. At his six month postoperative visit, the patient continued to show no signs of tumor recurrence and he was doing well. He was advised to follow up with any signs or symptoms related to tumor recurrence.

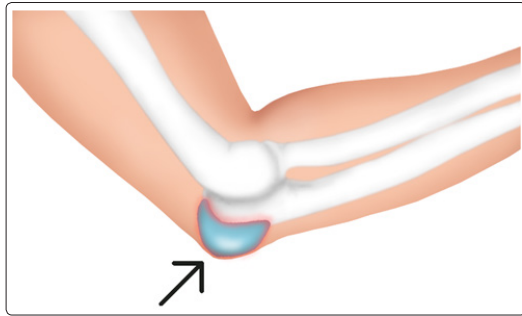


Figure 2: Olecranon Bursa

Discussion

Angioleiomyoma accounts for 5% of all benign soft tissue neoplasms [4]. In a review of Hachisuga's series of 562, only 25 cases (4.4%) were even present on the elbow [5]. The etiology is largely unknown, but angioleiomyoma have been twice as prevalent in women than men, which lends to the rarity of this case [6]. Usually an angioleiomyoma presents as a painful, solitary, small and mobile lesion that is typically around 2 cm in size [3]. These findings are consistent with this patient. The most characteristic complaints include pain and tenderness [3]. Angioleiomyoma should be included in the differential diagnosis of nodular lesions that mimic loose body such as lipomas, inclusion cysts, hemangioma, and nodular synovitis [7]. Pre-operative planning is difficult because imaging modalities are often non-specific and diagnosis is highly dependent on histopathological analysis after surgical excision. In an MRI study by Yoo et. al, MRI studies reveal well-defined oval or round masses in the subcutaneous fat layers after retrospective analysis of pathologically proven angioleiomyoma [8]. MRI findings would not have contributed to making definitive diagnosis unless pathological biopsy was conducted. The characteristic histopathology includes compressed connective tissue separated by clefts and often includes variable sized veins with muscular walls present within the nodule and accompanying smooth muscle bundle extensions [6]. Due to potential vessel spasm involving tumor, sensitivities or stinging may be seen when provoked by changes in temperature or touch, as seen in this patient. As this case report has illustrated, atypical locations of angioleiomyoma in the elbow should be noted and included in the differential diagnoses, particularly of nodular lesions. The most common swellings of the elbow include olecranon bursitis and hematoma of which neither confer any malignant potential. If recurrence and persistent pain exist after aspiration or corticosteroid injection, an excisional biopsy is warranted to minimize case of malignancy from an angioleiomyoma.

Conclusion

We report a rare instance of an angioleiomyoma in the right upper extremity. Surgical necessity can be difficult to assess in areas more common to bursa. A very calculated clinical plan must be followed not only to enable early detection, but to also prevent recurrence and potential malignant transformation. Not only is transformation a concern, but also the fact that angioleiomyomas are difficult to distinguish from more common pathology such as malignant leiomyosarcoma from imaging alone and are surgically excised due to these concerns. Positive desmin stains are the only way to definitely screen for malignancy and thus, require excision. Our case report demonstrates the importance of proper upfront diagnosis, management, and surgical intervention.

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