

Intramuscular Hemangioma of Serratus Anterior Muscle. A Case Report And Review of Literature.

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Abstract: Hemangiomas are abnormal proliferations of blood vessels, making up 7% of all benign soft tissue tumors. The intramuscular hemangiomas are rare tumors & they make up less than 1% of all the hemangiomas. The hemangiomas are described based on the type of vessel involved i.e. capillary, cavernous & mixed. Their location and unfamiliar presentation may require sonography, magnetic resonance imaging (MRI) and sometimes angiography for accurate diagnosis. We report case of Intra Muscular Hemangioma of the Serratus Anterior Muscle, in a 26 year old female

Keywords: Hemangioma, Serratus Anterior, Sonography, MRI.

I. Introduction

Hemangiomas are abnormal proliferations of blood vessels, making up 7% of all benign soft tissue tumors. Their true incidence and prevalence are difficult to calculate, as the majority of lesions are small and asymptomatic. These lesions are largely congenital, but approximately 20% can be linked to trauma. The established course is growth, fibro-adipose replacement, intravascular clotting, atrophy, and involution, supported by 90% occurring before the age of 30 years, as well as low incidence in older adults. They occur most commonly in subcutaneous adipose tissue but may also be found in muscle. Intramuscular hemangiomas account for approximately 0.8% of all benign soft tissue tumors. Intramuscular hemangioma (IMH) does not regress spontaneously and are usually detected in the second or third decade of life.¹ We report case of Intra Muscular Hemangioma of the Serratus Anterior Muscle, in a 26 year old female.

II. Case Report

An 26 year old female patient was admitted with the complaints of pain and swelling in the right shoulder, arm and right side of upper back on movement of the right upper limb since 4 years (Figure 1). The patient also noticed swelling over the right upper back since 1 year. Initially patient was treated with analgesics for her painful shoulder movement. The patient used to get severe pain in the right shoulder & over the scapular region on upward rotation of arm. Due to this severe pain, patient was unable to deal with her basic daily activities such as bathing, personal hygiene and dressing.

On examination of the upper back, a single, well demarcated, immobile, non-tender lump of 10 cm × 8 cm in size, was identified in the right scapular region. The mass was soft in consistency & the skin above the swelling was normal. There was no palpable thrill/ pulsation anywhere over the mass. The mass would become less prominent on adduction with medial rotation of the right arm and would become more prominent on upward rotation of the arm with aggravation of pain in right shoulder joint. Clinically the diagnosis was made as lipoma/ soft tissue tumor over the scapular area involving the serratus anterior muscle. The contrast MRI scan showed abnormal vascular channels involving entire right serratus anterior muscle suggestive of hemangioma. The patient was operated to excise entire right serratus muscle with intermingled hemangioma within it (figure 2). The involved muscle was excised completely from its insertion over the superior and inferior angles of scapula. The histopathological examination of the specimen showed large cavernous hemangioma involving the entire bulk of the serratus anterior muscle (figure 3). The patient recovered well with complete relief from pain in the right shoulder joint & arm movement in any axis. The histopathology report revealed hemangioma involving the entire serratus anterior muscle without any evidence of malignancy.

III. Discussion

The intramuscular hemangiomas are rare tumors & they make up less than 1% of all the hemangiomas. Serratus anterior muscle is an uncommon location for intramuscular hemangioma and has not been reported in the literature so far. Their location and unfamiliar presentation may require sonography, magnetic resonance imaging (MRI) and sometimes angiography for accurate diagnosis. The most accepted nomenclature for classifying intramuscular hemangioma based on histological appearance. Allen and Enzinger in 1972 formed a

classification system based on the vessel size; capillary, cavernous or mixed small/large vessel types .This classification correlates well with location and prognosis.²

Most of the time, clinically on bedside examination the intramuscular hemangiomas are misdiagnosed. Chandrasekar et al. in their article found that intramuscular hemangiomas are unique vascular tumors occurring most commonly in the trunk and the extremities. They present diagnostic challenge due to their deep position and unusual presentation.³

Our patient was diagnosed as alipoma/ soft tissue tumor involving the right serratus anterior muscle based on the patients' history & clinical examination and the diagnosis was confirmed by the preoperative contrast MRI scan & the postoperative histopathological investigation. The hemangiomas are described based on the type of vessel involved i.e. capillary, cavernous & mixed. Intramuscular hemangiomas are characterized as isointense mass lesions with increased signal intensity due to fat on T1 weighted images & well marginated markedly hyperintense mass lesions containing tubular structures with blood flow characteristics on T2 weighted images in MRI.⁴ Over 90% of intramuscular hemangiomas are misdiagnosed radiologically since hemangiomas are rarely seen in skeletal muscles and sometime contain an excessive amount of fat & fibrous tissue However, Lee et al. in their article concluded that patient with soft-tissue mass suspected of a hemangioma, MR imaging may provide very specific information regarding the characteristics, the origin, and the extent of the lesion than other imaging modalities.⁵

In a study comparing different treatment modalities, Uslu et al. concluded that ultrasound guided percutaneous sclerotherapy is preferred for pedal hemangiomas. For truncal hemangiomas, surgical excision is recommended.⁶ In our case, we performed primary surgical excision and the patient did not require any other treatment modalities such as sclerotherapy or embolisation. The definitive diagnosis was made by histopathological study of the surgical specimen.



Fig 3 Excised specimen with serratus anterior muscle

IV. Conclusion

The intramuscular hemangiomas pose a diagnostic clinical challenge because of their infrequent incidence, deep seated location and unfamiliar presentation.⁷ Patients may present with vague pain which may be misleading in the initial stage of reaching to the correct diagnosis as in our case which we thought to be a benign tumor, turned out to be a hemangioma. The rarity in its incidence, and the course of diagnosis and management is the reason to report this case. . Detailed clinical examination is a must with supporting imaging investigations such as contrast MRI in arriving to an accurate diagnosis. Various treatment modalities are available but primary surgical excision remains the preferred treatment option for deep intramuscular hemangiomas.

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