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Case Report

Extra Digital Glomus Tumor of Thigh in Elderly Patient. Rare Case Report

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ABSTRACT

Glomus tumors are rare soft tissue growths usually found in the hand or periphery. Even though the presentation of glomus tumors varies in the body, they are most commonly seen in the upper limb, particularly in the subungual region. The presentation of these tumors is rare in the lower limb. Glomus tumors predominantly affect women between the ages of 20 and 40. In this case, we present an intriguing instance of a 75-year-old female who exhibited a soft tissue swelling in her upper thigh, which is an unusual site. Post-operative histopathological analysis revealed that this soft tissue swelling turned out to be a glomus tumor.

KEYWORDS

Glomus tumor, Upper limb, Extra digital area, Magnetic resonance imaging (MRI), Excision

INTRODUCTION

Glomus tumors are benign soft tissue neoplasm arising from glomus apparatus present at subungual area of digits [1]. These tumors consist of around 1-2% of all soft tissue tumors. Extra-digital glomus tumor's locations are even rarer leading to misdiagnosis [2]. As in our index case, the tumor was presented at medial side of thigh which is rare site. So, lack of awareness and delayed diagnosis treatment may affect the outcome of the patient.

CASE REPORT

A 75-year-old female patient presented to General surgery 9OPD) out-patient day with left upper thigh swelling

since 5 year. The swelling was gradually increased in size since its appearance. The patient had experienced focal excruciating pain over swelling on touch. On clinical examination, there was an oval shaped firm swelling with well-defined borders with smooth surface measuring size of 2 x 1.5 cm in greatest dimension over left upper thigh (anterio-medial) region present in subcutaneous plane. The swelling was tender on touch and mobile. Routine blood examination revealed no abnormality. USG showed well defined ovoid soild hypoechoic lesion with internal vascularity measuring 1 x 1.5 cm suggestive of hemangioma (Figure 1). In view of symptomatic vascular lesion, we planned for excision. Under regional anesthesia, we did wide local excision of lesion with 0.5cm margin. Postoperative period was uneventful.

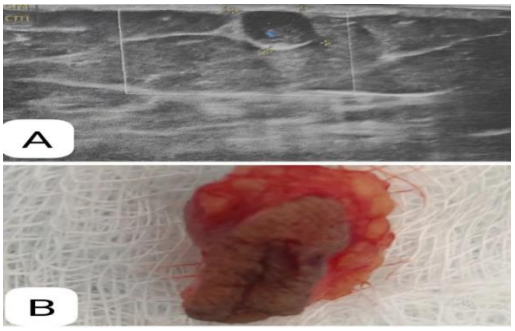

Figure 1: A) Ultrasound imaging showing well defined ovoid hypoechoic lesion with internal vascularity
B) post excision of glomus tumor with surrounding margin.

On post operative histopathology of lesion turned out as Glomus tumor. Microscopic section shows a well circumscribed tumor arranged in nests, sheets, trabeculae. The individual cells are monomorphic with distinct cell borders with round vesicular nuclei finely clumped chromatin with moderate to scant eosinophilic to vacuolated cytoplasm. The stroma shows numerous thin-walled blood vessels with perivascular hyalinosis. There is no mitosis or necrosis. The subcutis is unremarkable (Figure 2 & 3).

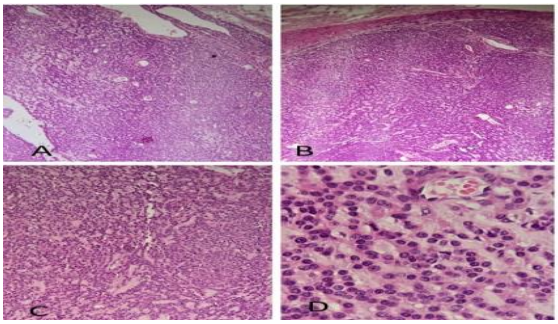

Figure 2: (A,B,C& D) 4x,10x &40x microscopy imaging showing a well circumscribed tumor arranged in nests, sheets, trabeculae & numerous thin walled blood vessels with perivascular hyalinosis. There is no mitosis or necrosis.

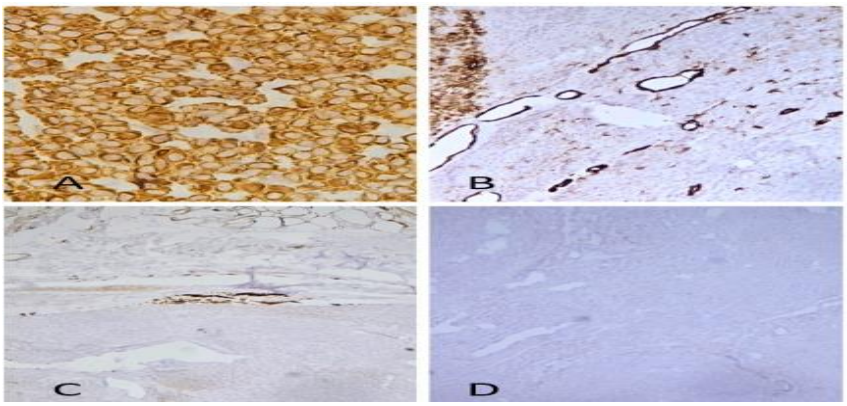

Figure 3: On Immunohistochemistry it shows diffuse cytoplasmic positivity for SMA, focal positivity seen for CD34, S100 negative and PanCK negative tumous cells.

DISCUSSION

Glomus tumors are benign soft tissue neoplasms arising from glomus bodies. Glomus bodies were first described by Wood in 1812 [3]. The glomus body, which is present in the dermis, plays a role in thermoregulation [4]. Glomus tumors are composed of glomus cells, vascular parts, and smooth muscle cells. Tumor formation is due to hyperplasia of any one of these components. They are classified as solid glomus tumors (75%), glomangioma (20%), or glomangiomyoma (5%). Other variants of the glomus tumor include glomangiomatosis and malignant glomus tumors, which are exceedingly rare. These tumors are commonly found in areas rich in glomus bodies, such as the distal extremities, particularly the palms, wrists, forearms, feet, and subungual regions [5]. The presence of a tumor in the proximal parts of the upper or lower limbs is rare, as in our index case, where the tumor is present over the thigh, which is a rare site for presentation.

Glomus tumors can manifest as either multiple lesions or isolated occurrences. Familial tumors are often inherited in an autosomal dominant fashion. There are two types of mutations: inherited (familial) and sporadic [6]. Glomus tumors exhibit autosomal dominant inheritance with incomplete penetrance and variable expression, located on chromosome 1p21-22.

The clinical presentation of glomus tumors includes tenderness upon palpation, with pain triggered by pressure and cold [7]. Although visceral organ involvement is rare, it has been documented in the nasal cavity, mediastinum, gastrointestinal tract, respiratory tract, urogenital tract, and hepatobiliary system. The classic triad of glomus tumor symptoms includes hypersensitivity, intermittent pain, and pinpoint pain [8]. However, glomangiomas often do not present with this classic triad.

Clinical tests such as the Love test (point tenderness) and Hildreth's sign (decreased pain upon exsanguination of

the limb and applying a tourniquet) are highly indicative of glomus tumors, with Hildreth's sign having a sensitivity of 92% [9]. Glomus tumors are reported to occur more frequently in women, typically between the ages of 20 and 40 years.

Imaging studies like plain radiography have less role, but they may reveal scalloping of the bone surface. Doppler ultrasound identifies the hypervascular nature of glomus tumors. Magnetic resonance imaging (MRI) is the most commonly employed modality for diagnosing glomus tumors, which typically appear as well-circumscribed nodules that are hypointense on T1-weighted images and hyperintense on T2-weighted images [10].

On histopathological examination, these lesions show glomus cells surrounded by enlarged, dilated, vein-like structures. Glomus cells are poorly differentiated smooth muscle cells. They stain positive for vimentin, calponin, and SMC alpha-actin, and are negative for S-100, von Willebrand factor, and desmin [11].

The curative modality of treatment for glomus tumors is complete excision [12]. Other modalities of treatment include electron-beam radiation, sclerotherapy with hypertonic saline or sodium tetradecyl sulfate, argon laser, flash-lamp tunable dye laser, and CO_2 lasers. As in our case, we performed complete excision of the tumor.

CONCLUSION

Comprehensive physical examination, complete knowledge about extra digital glomus tumors lead, early diagnosis and timely intervention. These are corner stones for good out-come of the patient.

DECLARATIONS

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Consent: Valid consent taken from patient and her attendant

Author contribution: AM & KR made the main manuscript. HK& SR collected all data. SR &AM did final corrected and proof reading.

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