



## Glomus tumor of forearm- A rare presentation

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### Abstract

Glomus tumor is a rare benign tumor commonly involving fingers and toes. While it has also been reported to have occurred elsewhere, there are only a handful reported cases. Diagnosis may be uncertain due to non-specific symptoms, inability to detect on physical examination or routine investigations and radiographs. This case report highlights the importance of awareness of this rare tumor and its presentation in rare locations.

**Keywords:** glomustumor; benign tumor;

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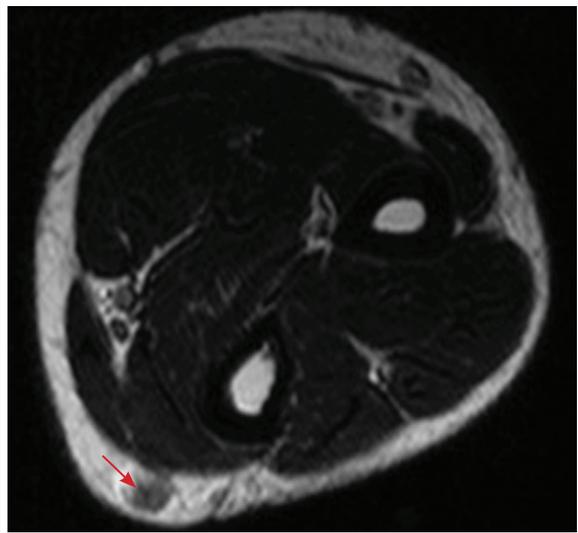
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### Case report

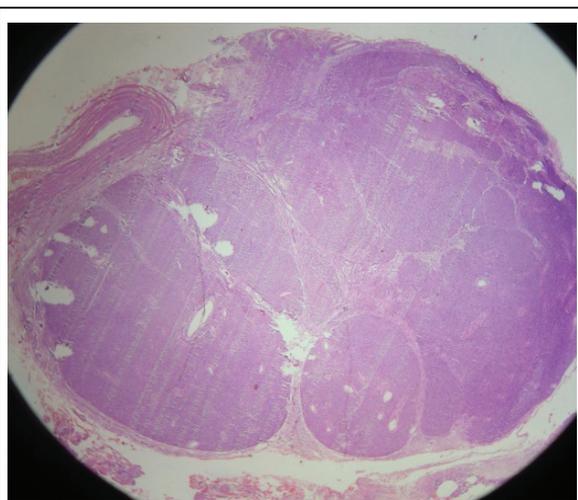
A 62-year-old male presented to the orthopaedic outpatient department of KIMS, with a three months history of pain over the ulnar aspect of left forearm, which was insidious in onset and gradually progressive. He complained of sharp pain not only during daily activities of living but also during rest. He had night pain and increased sensitivity to cold. He also complained that he could feel a “grainy” mass at the ulnar aspect of his left forearm. He suffered from excruciating pain, not relieved by analgesics. There was tenderness on palpating along the ulnar aspect of right forearm at proximal and mid third junction. Clinically no mass was palpable, even though the patient had a feeling of grainy mass. No signs of inflammation or infection were present.

The radiographs and routine laboratory investigations were within normal limits. The MRI obtained revealed a spherical mass over the ulnar aspect of left forearm. The lesion appears as a dark, well defined mass on T1 weighted images and as a bright contrast enhancing mass on T2 weighted image. The small size (5mm × 5 mm) and the spherical nature of the lesion was demonstrated on MRI (Figure 1).

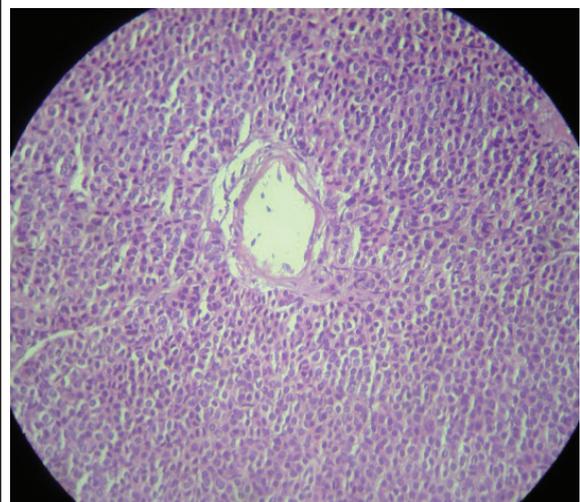


**Figure 1:** Axial section of forearm MRI, showing dark rounded tumor in the ulnar aspect (arrow) in the subcutaneous plane.

An ulnar approach to the forearm was made, and excision performed in the subcutaneous plane. A spherical-brownish white mass measuring 5 × 5mm was identified, without gross surrounding tissue abnormality. The resulting histopathology was consistent with the pre-operative diagnosis of glomus tumor. The tumor had multiple lobules of mononucleated cells in the stroma, in the form of nests surrounding branching vascular channels. The cells had very low mitotic activity (Figures 2 and 3). Following surgery the patient had complete absence of pain. At one year follow up, the patient reported complete relief of his pre-operative symptoms.



**Figure 2:** Gross microscopic appearance of the tumor, showing multi-lobulated mononuclear cells surrounding the branching vascular channels.



**Figure 3:** High power microscopic appearance of the tumor, showing mono-nuclear cells surrounding the vessel.

## Discussion

Glomus tumor is a rare benign vascular tumor which accounts for less than 2% of all soft tissue tumors [1] usually occurring in the subcutaneous layer under the nail, fingertips and foot [2] but rare in the forearm [3] only a handful of cases have been reported worldwide. It arises from the smooth muscle cells of glomus body which is a neuro arterial thermoregulator structure [1].

Most of the patients present with a classical triad of moderate pain, point tenderness and temperature sensitivity. Though early medical attention is sought, these symptoms are non-specific [4] and could be mostly left undiagnosed or miss diagnosed. The mass is often very small and mostly non palpable.

Usually plain radiographs are otherwise normal. Occasionally bony erosions may be seen in long standing cases. Use of ultrasound is not helpful in arriving at definitive diagnosis as it is operator and technique dependent [5]. Magnetic resonance is the imaging investigation of choice.

## Conclusion

Though very rare it can occur not only in the fingers and foot but can occur in other parts of the body (like the forearm being involved in this case). It involves severe morbidity and could be missed or miss diagnosed based on the history, location, physical examination and on routine investigations and radiographs. MRI is the investigation of choice.

Complete excision usually leads to cure, with low incidence of recurrence.

### **Acknowledgements**

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### **Conflicts of interest**

Authors declare no conflicts of interest.

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