

Glomus tumor of fingertip – An unusual and often misdiagnosed cause of finger pain

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Abstract

Background: Glomus tumours or Glomangiomas are benign vascular neoplasms arising from glomus body causing significant morbidity to patient. They show classic triad of moderate pain, temperature sensitivity and point tenderness with positive Hildreth sign which is pathognomic for glomus tumors. It is difficult to diagnose clinically owing to its small size at initial presentation and is frequently missed. Glomus tumors show characteristic MR appearance. Imaging helps reach a definitive diagnosis with additional preoperative knowledge of the exact site and the size of the tumor aiding in further surgical planning. MR also helps rule out other important differential diagnoses. We present a case report of a chronic finger pain, diagnosed as glomus tumor of finger with the help of imaging. **Case presentation:** A 28 year male presented with history of pain at the tip of left index finger with reddish skin discoloration and exaggerated pain on exposure to cold since 11 months. There was no preceding trauma. On examination, the swelling was tender without any palpable lesion or restriction of movements. A clinical diagnosis of glomus tumor was made and patient referred for confirming the diagnosis and preoperative radiological imaging. The exact location and size of the pulp glomus tumor was identified on imaging which assisted complete surgical removal. This case aims to reflect a rarely involved site of glomus tumor in the finger pulp with diagnosis and further management assisted due to MR imaging. **Conclusions:** Considering uncommon incidence of glomus tumor of finger, It is essential to consider a differential of glomus while evaluating finger pain. Magnetic resonance imaging should be considered for prompt diagnosis and treatment. Surgery is the treatment of choice. Hence, high clinical suspicion, early imaging to avoid misdiagnosis and prompt treatment is crucial to avoid prolonged morbidity with disuse syndromes, increasing financial burden of repeated OPD visits and negative psychiatric impact.

Keywords: Case report, Hand lesions, finger pulp, Glomus tumor, misdiagnosis.

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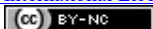
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INTRODUCTION

Glomus tumours are benign vascular hamartomas arising from normal glomus body. These are uncommon tumors and can affect any region of the body. A majority of 75% occur in the hand, with nearly 65% in the fingertips, particularly subungual in location.^{1,2} This is explained by

the relative abundance of glomus body in reticular dermis of fingers. They constitute 1% to 4.5 % of tumors in the hand and classically present in young to middle-aged individuals with a slight female preponderance.³ They can present as solitary painful mass or multiple painless lesions.⁴ The classic triad of symptoms include - pain, pinpoint tenderness, and hypersensitivity to cold. The typical presentation is a solitary nodule in the subungual or periungual area of the distal phalanx. Clinical tests such as Love's pin test, cold sensitivity test and Hildreth's test are useful in diagnosing glomus tumour. The most common site of involvement in the finger is the subungual region followed by median and lateral folds, pulp and lastly proximal nail folds.⁵

The pathophysiology of Glomus tumors shows that these are benign hamartomas arising from the neuromyoepithelial cells of glomus body, which is an arteriovenous shunt within the reticular dermis that

contributes to temperature regulation. The mechanism of pain may be attributed to contraction of myofilaments in response to temperature changes, leading to an increase in intracapsular pressure.^{6,7}

They show characteristic MR features of dark hypointense mass on T1-weighted images and brightly hyperintense on T2-weighted images with intense homogenous enhancement on T1 post-gadolinium fat saturation images. The prime objective of imaging is prompt diagnosis and localisation to assist early surgical intervention.^{8,9}

Important differentials to be considered are subungual exostosis, neuroma, ganglion and melanoma. Painful skin lesions also include blue rubber bleb naevus, eccrine spiradenoma, neuroma, angioliipoma, leiomyoma, dermatofibroma, squamous cell carcinoma and other malignancies.^{7,10,11}

Surgical excision is the treatment modality of choice. The approach is decided based on imaging findings of site and size of the tumor. The varied approaches include transungual with nail plate replacement and lateral approaches - lateral subperiosteal and latero-ungual.^{1,12,13}

This case report aims to highlight the consideration of glomus finger at an uncommon site- finger pulp, as a differential of a cause for finger pain inspite of its relative rare incidence and to avoid misdiagnosis.

CASE PRESENTATION

We report a case of 28 year old male who presented with complaints of pain at the tip of left index finger associated with reddish skin discoloration and exaggerated pain on exposure to cold, all since 11 months. There was no preceding trauma or systemic symptoms. On examination, the swelling was tender without any palpable lesion or restriction of movements. The patient had multiple visits to different specialities for the same complaints before a presumptive working diagnosis of glomus tumor of finger was made. He was given medical management with no relief of symptoms. These tumors pose a challenge in clinical diagnosis as they are small with no palpable lesion, deep seated and present with non specific symptoms. The patient was referred to radiology department for confirming the diagnosis and preoperative localisation.

On plain Radiographs (Figure 1), there was scalloping or focal erosion of underlying cortex with surrounding sclerosis of distal phalanx suggesting their slow growth. Ultrasonography with high frequency hockey stick transducer showed, a well defined hypoechoic nodular lesion with hypervascularity on doppler, attributable to the high velocity flow in intra-tumoral shunt vessels. On MR (Figure 2), it showed characteristic features revealed a well-circumscribed spherical lesion at the same site. It appeared as a dark hypointense mass on T1-weighted images and brightly hyperintense on T2-weighted images

with intense homogenous enhancement on T1 post-gadolinium fat saturation images. Imaging helped reach the diagnosis of finger pulp glioma in an un-usual site with accurate localisation assisting surgical planning. Surgical excision was done for the patient with complete relief of symptoms. No recurrence was found on follow up visit at 1 year.

CONCLUSIONS

The glomus tumor is a small benign lesion which is relatively rare and often misdiagnosed cause of finger tip pain. Classic clinical presentation, considering differential of glomus tumor with specific MR imaging characteristics in a case of fingertip pain allow a definitive prompt diagnosis and successful resection.



Figure 1: Lateral radiograph showing cortical erosion of distal phalanx of index finger.

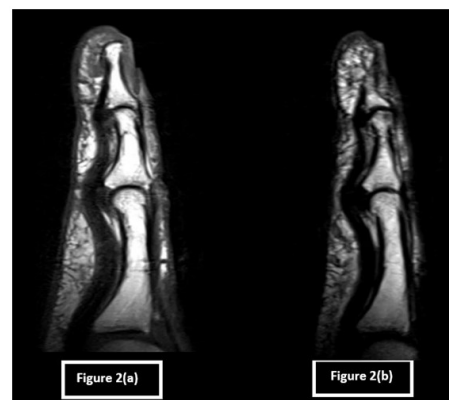


Figure 2 (a and b): T1W and T2W images showing the lesion involving pulp of right index finger with characteristic appearance on MRI.

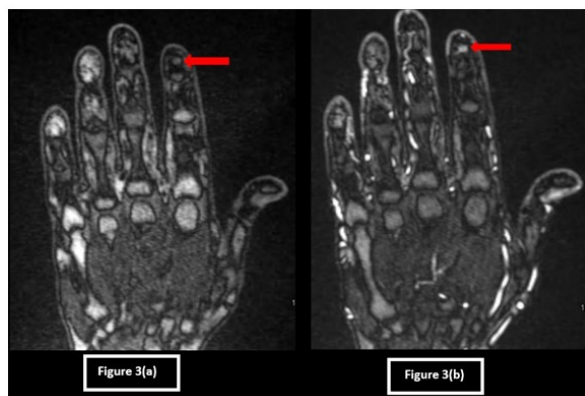


Figure 3(a and b): Pre and post contrast fat saturated T1W images showing significant homogenous enhancement of the lesion.

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