

Case Report

Multiple glomus tumors in left hand digits: a case report with literature review

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ABSTRACT

Glomus tumors are rare, benign vascular neoplasms that arise from the neuromyoarterial glomus body, most commonly occurring in the subungual region of the fingers. Despite their small size, which causes disproportionate symptoms characterized by severe localized pain, pinpoint tenderness, and cold sensitivity, they often lead to delayed or missed diagnosis. This case report is of a 48-year-old male with a 20-year history of localized pain in the left index, ring, and small fingers. He had visited multiple healthcare centers and received various treatments, but not relief. On detailed history and physical examination, with visual analogue scale (VAS) 9/10 findings were suggestive of a glomus tumor. Magnetic resonance imaging (MRI) confirmed the diagnosis and precisely localized the lesion. The patient underwent complete surgical excision, and histopathological examination of the specimen confirmed a glomus tumor. Postoperatively, the patient experienced immediate symptomatic relief, with a VAS 1/10. with no recurrence observed during nine months of follow-up. This case highlights the presence of a multiple-digit-long-standing glomus tumor in the left hand that remained undiagnosed and undertreated for a long time, the presence of multiple glomus tumors in the same hand digits is rarely reported in the literature. This case highlights an rare presentation of the highest reported number of glomus tumors involving multiple digits of a single hand.

Keywords: Multiple, Glomus tumor, Left hand digits, Rare, Benign

INTRODUCTION

Glomus tumors were initially reported in 1812 by Wood, who described them as small, painful lesions located beneath the skin.¹ In 1934, Mason introduced the term glomus tumor and provided a detailed histopathological description, identifying its origin from neuromyoarterial glomus body situated within dermal layer of skin.² These tumors most commonly affect hand, particularly digits, and account for approximately 1-5% of all hand tumors.³⁻⁵ Glomus tumors are uncommon, benign vascular neoplasms arising from specialized arteriovenous shunts involved in thermoregulation. Clinically, they are characterized by a typical symptom complex consisting of severe episodic pain, localized point tenderness, and heightened sensitivity to cold stimuli.^{3,6} Although glomus tumors are usually solitary, multiple lesions may occur, though this presentation is infrequent. Solitary tumors are

predominantly found in hand, with a significant proportion occurring in subungual region and are reported more commonly in females.^{3,7-9} In contrast, multiple glomus tumors tend to present as painless, pink to violaceous nodules. They are more frequently observed in children and male patients, often following an autosomal dominant inheritance pattern.¹⁰ Several clinical tests, including Love pin test, Hildreth's test, and cold sensitivity testing, can assist in diagnosis. Despite these diagnostic aids, glomus tumors are frequently misdiagnosed or overlooked due to their small size, rarity, benign behavior, and variability in clinical presentation and limited clinical awareness.¹¹

CASE REPORT

A 48-year-old Indian male presented to our outpatient department with complaints of tenderness in the digits of his left hand. On detailed history, the patient reported that

approximately 20 years ago, he experienced intermittent pain at the tip of his left little finger. Four months later, this pain became severe, throbbing in nature, and markedly aggravated by touch, pressure, pulling, and exposure to cold. Despite multiple consultations and treatment attempts at different centers, he obtained no significant relief. After about three years, he developed similar severe pain and cold sensitivity at the tip of his left ring finger, which made simple tasks such as buttoning his shirt collar or putting on clothes difficult. He continued to seek medical care at various centers but remained symptomatic, relying on analgesics and local oil massage he was living with no long-term improvement. Two years later, he noticed similar but less intense pain at the tip of his left index finger. Over time, the pain worsened as like ring and small finger, interfering with his ability to ride a bike, dress himself, and perform daily activities. His symptoms were particularly aggravated during rainy and winter seasons, as well as while wearing gloves or putting his hand inside his pocket. He reported being unable to use his left hand for routine tasks, often requiring assistance for dressing. He also developed anxiety, his pain also seemed worse during episodes of acidity or gastric discomfort. During this prolonged course, he visited several centers and was variably advised that his condition might be neurological in origin. Neurological assessments and investigations were unremarkable. He also underwent alternative treatments, including Ayurveda massage and acupuncture, which provided only short-term or no relief. Ultimately, he adapted to using his right hand predominantly, living with persistent pain and increasing anxiety. He denied any significant past medical, surgical, or comorbid conditions. In November 2024, patient was referred to our clinic. On evaluation, he reported severe pain with a VAS score of 9/10. Clinical examination revealed pinpoint tenderness over the tips of the left little, ring, and index fingers. The Love's pin test was positive. Based on history and examination, a clinical diagnosis of glomus tumor was made. Patient was counseled about condition, treatment options, and prognosis, which reassured him.

Routine blood investigations and radiographs normal. MRI was performed for confirmation, revealing a lesion in the subungual space with low signal intensity on T1-weighted images and high signal intensity on T2-weighted images, consistent with a glomus tumor. The patient consented to surgical excision with biopsy and subsequently underwent surgery in November 2024.

Treatment

The patient was taken to the operating room, and the site of pinpoint tenderness was identified and marked. Under a brachial plexus block, the patient was placed in the supine position in a fully aseptic environment, with standard painting and draping performed. A glove tourniquet was applied at the base of each affected finger. The surgical team operated under magnification using loupes. A parallel incision was made as per need, followed by careful removal of the nail plate. After incising the nail bed, the tumor was excised in its entirety. The nail bed was then repaired with 5-0 catgut, and nail plate was repositioned to serve as a biological dressing. Wound closure and stabilization of nail plate were achieved with 5-0 Ethilon sutures. Finally, a firm dressing was applied. On the first postoperative day, the patient reported significant relief, with complete resolution of intense pain. At the two-week follow-up, the dressing was removed, revealing a well-healed wound without signs of infection. Sutures were removed, and patient's VAS score 1/10. Local examination showed no pinpoint tenderness, and the patient was advised to wash the hand under running water; no hypersensitivity to cold was noted. Histopathological examination report was traced that confirmed the diagnosis of a glomus tumor. The patient was counseled regarding nail regrowth and advised to undergo regular follow-up and physiotherapy. At the nine-month follow-up, patient expressed satisfaction, performing daily activities without discomfort. The new nail had grown normally, pain had completely resolved (VAS score 0/10), and no scar tenderness or recurrence was observed.



Figure 1 (A-E): A-gloves tourniquet on each finger base and removal nail plate. B-tumor after removal of nail plate. C-tumor after nail bed incision, D-after repairing nail bed and skin and E-9 months' postop images after regrowth of nail.

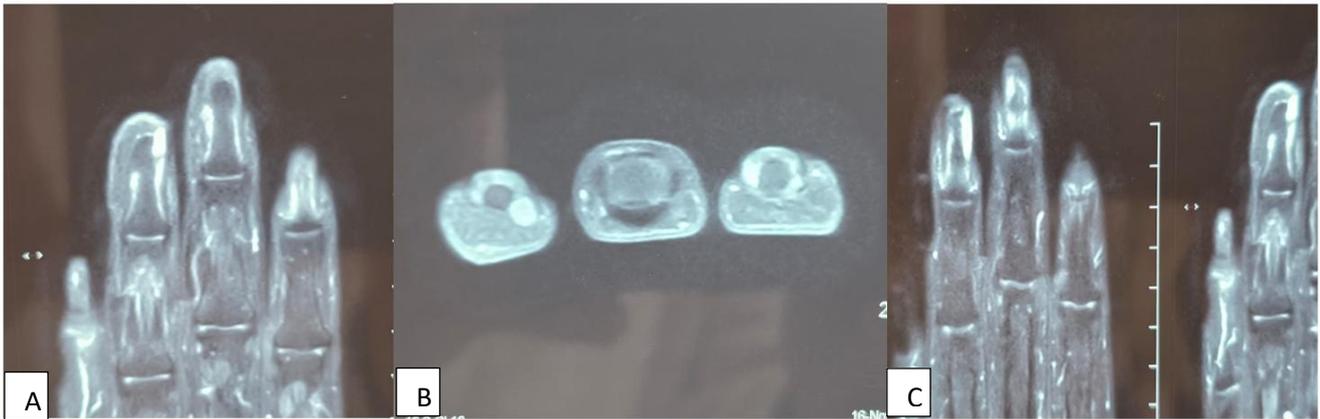


Figure 2 (A-C): MRI image showing high signal intensity and location of tumor

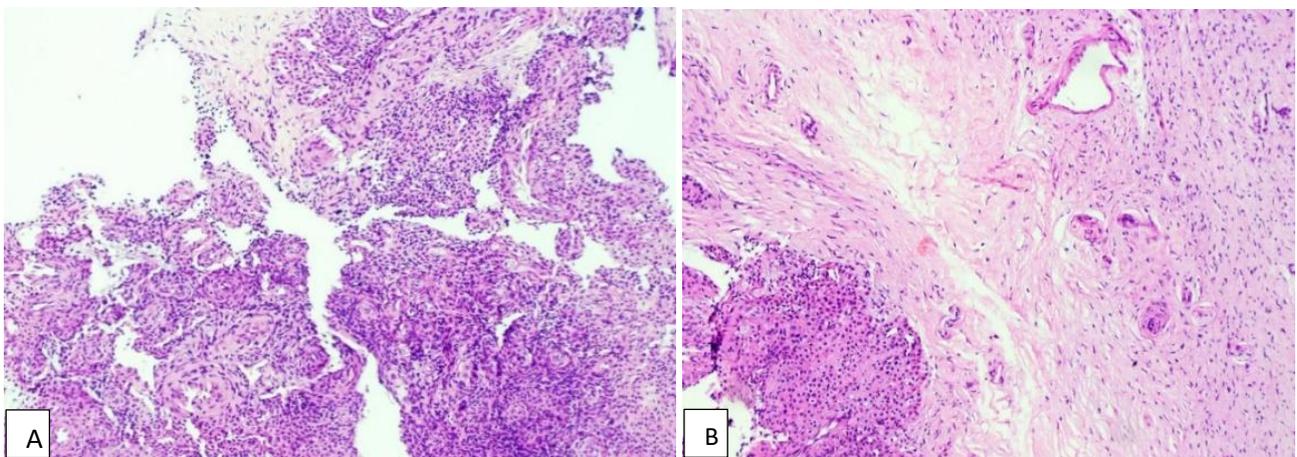


Figure 3 (A and B): Histopathological microscopic images round shaped tumor cells with indistinct borders and punched out nucleus without mitosis and atypia.

DISCUSSION

Hueston divided glomus tumors into three categories: solitary glomus tumors (I), numerous painful glomus tumors (II), and multiple painless glomus tumors (III).¹² Patients with glomus tumors frequently show up late, despite the tumors being benign. The algorithm for early detection of subungual glomus tumors was presented by Rohrich et al.¹³ The characteristics of isolated lesions include discomfort, paroxysmal pain, and a reddish-purple discoloration of the lesion. Both painful and painless multiple glomus tumors may be inherited.^{10,14} The literature has detailed numerous variations of multiple glomus tumors. It has been described in adjacent fingers by others.^{15,16} recurrent or non-adjacent fingers or many glomus on a single finger.^{9,17} Multiple glomus tumors may occur simultaneously.^{9,16} MRI and ultrasonography (USG) have been used to confirm diagnosis in addition to clinical symptoms.¹⁸ Although more expensive than USG, MRI is non-invasive and offers superior contrast between a tumor and healthy tissue.^{9,20} In our case, we had a synchronous glomus tumor that was subungual in the index, middle, and little fingers. Separate incisions were taken to expose the tumor excision, and it was sent for histopathology analysis,

confirming the diagnosis. There was no tumour recurrence at the 9 months' follow-up.

Even though they are rare, patients with chronic fingertip pain should be evaluated for glomus tumors. Careful clinical examination and imaging assistance facilitate early diagnosis, and precise surgical excision yields excellent functional and symptomatic results.

This case demonstrates the existence of a long-standing, multiple-digit glomus tumor in the left hand that went undetected and untreated for a considerable amount of time before our center was able to provide an accurate diagnosis and effective treatment. Multiple glomus tumors seen in the same hand fingers are rarely documented in the literature.

CONCLUSION

This case highlights presence of multiple digits long standing glomus tumor in left hand that remain undiagnosed and undertreated for a long time, where an exact diagnosis and successful treatment were achieved in our center. and presence of multiple glomus tumor in same

hand digits are rarely reported in literatures. This case highlights an rare presentation of the highest reported number of glomus tumors involving multiple digits of a single hand.

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