

Glomus Tumours Involving Multiple Digits: A Case Report

RATISH CHINNASAMY¹, LATHA MADHAVAN², ALAGU BALAJI PALANIAPPAN³, KARTHIKEYAN DHAMODARAN⁴



ABSTRACT

Glomus tumours are rare benign vascular neoplasms arising from the glomus body and most commonly occur in the subungual region of the digits. They usually present as solitary lesions with severe localised pain and tenderness. We report a rare case of a 29-year-old female presenting with chronic fingertip pain involving multiple digits of the left hand. Ultrasound revealed well-defined hypoechoic subungual lesions with increased vascularity. Surgical excision of two symptomatic digits was performed, and histopathological examination confirmed glomus tumours. Glomus tumours involving several digits are uncommon. Awareness of this entity, along with the use of high-resolution ultrasound, can facilitate early diagnosis and effective management.

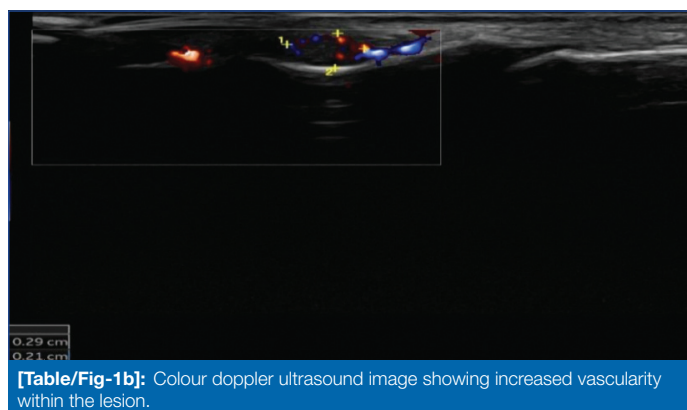
Keywords: Digits, Finger pain, Subungual lesion, Ultrasound, Vascular neoplasm

CASE REPORT

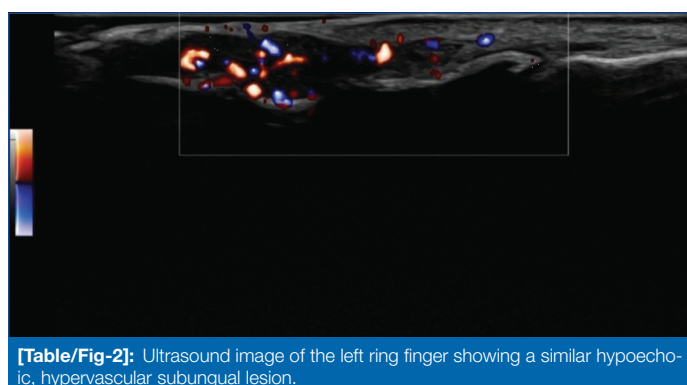
A 29-year-old female presented with an eight-year history of intermittent severe fingertip pain involving multiple digits of the left hand. The affected digits included the index, middle, ring and little fingers, while the thumb was not involved. Over time, the pain progressively worsened and became intolerable. The patient described sudden, sharp episodes of pain with marked cold sensitivity that significantly interfered with daily activities. The patient reported that the pain had become severe and intolerable over the preceding seven days, following which she presented to the hospital.

Clinical examination revealed focal tenderness in the index, middle, ring and little fingers without visible swelling or nail discolouration. Love's pin test and cold sensitivity test were positive in the affected digits, reproducing the characteristic sharp pain.

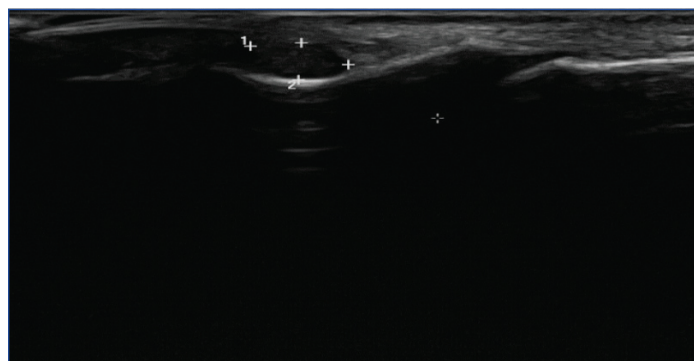
High-resolution ultrasound of the left hand demonstrated a well-defined hypoechoic lesion measuring approximately 2.9×2.1 mm in the subungual region of the left index finger [Table/Fig-1a,b]. A similar hypoechoic lesion with internal vascularity on colour Doppler was identified in the subungual region of the left ring finger [Table/Fig-2]. Ultrasonographic evaluation was primarily focused on the most symptomatic digits planned for initial surgical management.



[Table/Fig-1b]: Colour doppler ultrasound image showing increased vascularity within the lesion.



[Table/Fig-2]: Ultrasound image of the left ring finger showing a similar hypoechoic, hypervascular subungual lesion.



[Table/Fig-1a]: Gray scale ultrasound image showing a well-defined, hypoechoic subungual lesion in the left index finger.

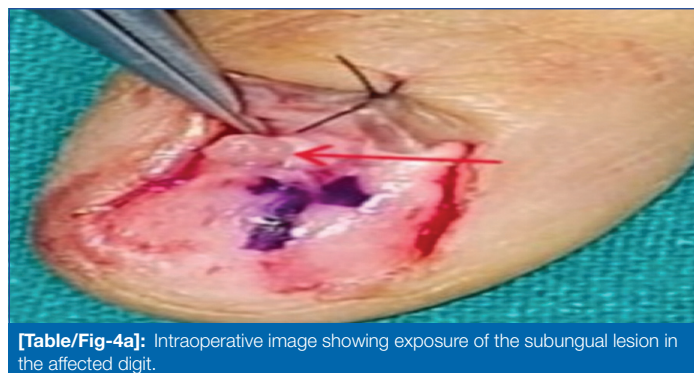
Plain radiography of the left hand showed no evidence of bony erosion or cortical abnormality [Table/Fig-3]. MRI was not performed due to patient claustrophobia; however, ultrasound



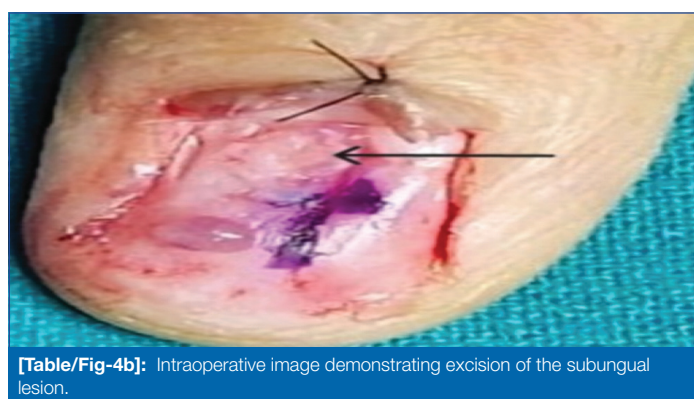
[Table/Fig-3]: Plain radiograph of the left hand showing no evidence of bony lesion or cortical erosion.

findings were considered sufficient for diagnosis and surgical planning.

Surgical excision of the lesions in the index and ring fingers was performed. Due to multifocal involvement, staged surgical management was planned by the surgical team, and two symptomatic digits were excised initially to establish the diagnosis. Intraoperatively, a small well-circumscribed subungual vascular lesion was identified and excised completely [Table/Fig-4a,b].

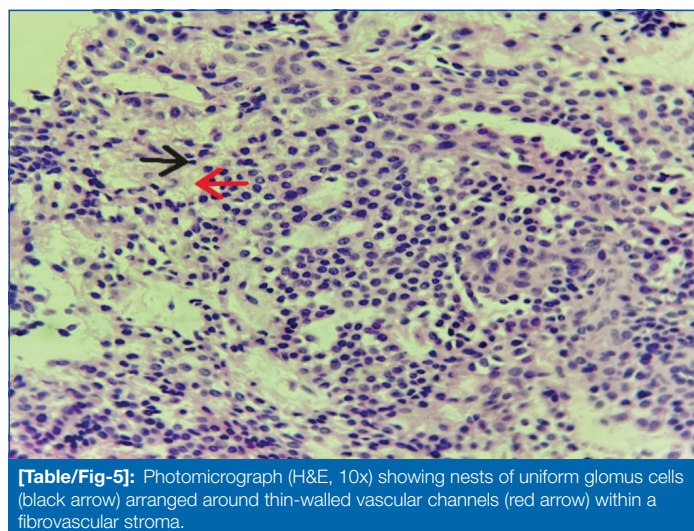


[Table/Fig-4a]: Intraoperative image showing exposure of the subungual lesion in the affected digit.



[Table/Fig-4b]: Intraoperative image demonstrating excision of the subungual lesion.

Histopathological examination demonstrated nests of uniform round to polygonal cells arranged around thin-walled vascular channels with fine chromatin and moderate eosinophilic cytoplasm without mitosis or necrosis [Table/Fig-5], confirming the diagnosis of glomus tumour.



[Table/Fig-5]: Photomicrograph (H&E, 10x) showing nests of uniform glomus cells (black arrow) arranged around thin-walled vascular channels (red arrow) within a fibrovascular stroma.

The patient reported a preoperative pain score of 8 on the Visual Analogue Scale (VAS). Immediate postoperative pain improved to a score of 3. The patient was discharged on the first postoperative day and reviewed 48 hours after discharge. Sutures were removed on postoperative day 14. At the three-month follow-up, the pain score further improved to 0 with no evidence of recurrence. Surgical excision of the remaining affected digits was planned for six months later, per the patient's preference.

DISCUSSION

Glomus tumours are relatively rare, benign, vascular tumours that can be solitary or multiple (with the former accounting for the majority of cases) [1]. Solitary glomus tumours frequently develop in the subungual region and are accompanied by spontaneous pain that tends to intensify with compression, cold, and other factors [1].

High-resolution ultrasound plays an important role in the diagnosis of subungual glomus tumours. They typically appear as small, well-defined hypoechoic lesions with internal vascularity on colour doppler imaging [1]. MR imaging can help accurately define the location and limits of glomus tumours before excision [2]. MRI is also highly sensitive and typically demonstrates T1 hypointense and T2 hyperintense lesions with avid contrast enhancement [3]. However, MRI may not always be feasible in certain patients.

Mazhar FN and Nasab OM reported a 37-year-old female presenting with chronic pain and cold sensitivity in the middle and ring fingers, with symptoms persisting for three years and worsening over five months. Clinical examination revealed localised tenderness, and despite inconclusive imaging findings, surgical exploration based on clinical suspicion led to the identification and excision of tumours in both digits. Histopathological examination confirmed glomus tumours, and the patient experienced complete resolution of pain with no recurrence at six-month follow-up [4].

Kolisetty PV et al., conducted a retrospective study of 12 patients with biopsy-proven glomus tumours. The majority of the patients were female (83.3%), and the mean age was 29.77 years (range: 22.5-42.4). Predominantly tumours were found on the ring finger, followed by the middle and index fingers. The most common location of tumours is the subungual region (n=9). The common preoperative symptoms were excruciating pain (n=12) and swelling (n=8). Love's pin test for pinpoint tenderness was positive in all cases [5].

Surgical excision remains the definitive treatment for glomus tumours and usually results in excellent symptomatic relief. In the study by Kolisetty PV et al., the mean preoperative QuickDASH score was 25.28 (17.25-34). With a mean follow-up of 26.7 months (range: 6-48 months), the mean postoperative score was 2.19 [5].

CONCLUSION(S)

Multifocal glomus tumours involving several digits are rare but should be considered in patients presenting with chronic, unexplained fingertip pain affecting multiple digits. High-resolution ultrasound is a valuable, non-invasive diagnostic modality that aids accurate localisation and surgical planning, facilitating successful treatment.

Patient consent: Written informed consent was obtained from the patient for publication of this case report and accompanying images.

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PLAGIARISM CHECKING METHODS: [\[Jain H et al.\]](#)
• Plagiarism X-checker: Nov 19, 2025
• Manual Googling: Apr 02, 2026
• iThenticate Software: Apr 08, 2026 (1%)

ETYMOLOGY: Author Origin

EMENDATIONS: 6

AUTHOR DECLARATION:

- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: Nov 18, 2025
Date of Peer Review: Jan 28, 2026
Date of Acceptance: Apr 09, 2026
Date of Publishing: May 01, 2026