

Glomus Tumor

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A 48-year-old man presented with a 3-year history of progressive, localized, paroxysmal pain, and swelling of the 5th digit pulp. The pain worsened with cold exposure, accidental tapping, and pressure. Prior consultations with an orthopedic surgeon, internal medicine specialist, and a neurologist failed to establish a diagnosis. Treatment with analgesics, nonsteroidal antiinflammatory drugs, physical therapy, and antibiotics was unsuccessful. Examination revealed a bulbous reddish deformity of the pulp. Love's pin test (excruciating pain elicited by gentle pressure with a pin head), Hildreth's test (a tourniquet is applied at the base of the digit, and by repeating Love's pin test, the pain is abolished), and cold sensitivity test (increased pain when exposed to cold water) were positive. Plain radiographs displayed subtle erosion of the volar cortex of the distal phalanx. High-resolution ultrasonography (US) showed a globular hypoechoic area of 8 mm on long axis view. Color Doppler and power Doppler US displayed marked hypervascularity of the lesion (Figure 1). Magnetic resonance imaging (MRI) showed a hypointense well defined nodule on T1-weighted images, which became hyperintense on T2-weighted images (Figure 2). Nodule enhancement appeared with gadolinium. Surgical excision was performed. Gross pathology revealed a well defined red-blue nodule. Histology revealed a glomus tumor composed of compact nests of monotonous polygonal cells with rounded nuclei and eosinophilic cytoplasm (Figure 3). On followup the patient is free of symptoms with no evidence of recurrence.

Glomus tumors are benign hamartomas that account for 1% to 5% of all soft-tissue tumors of the hand. They arise

from the normal glomus apparatus, located in the subcutaneous tissue. Glomus tumors are encountered most frequently in the subungual region of digits, but can be found almost anywhere in the body¹. Glomus tumors present with the classic and virtually diagnostic triad of limb pain out of proportion to the size of the lesion, exquisite tenderness to even the lightest touch, and exacerbation of symptoms on exposure to temperature changes, especially cold^{2,3}. Scintigraphy is a useful but nonspecific diagnostic tool⁴. MRI provides an excellent contrast between the neoplasm and normal tissue. On the other hand, US is able to demonstrate the size, site, and shape of the tumor, even if the tumor is not palpable⁵. The combination of clinical testing, US, and MRI allows for early and accurate diagnosis of glomus tumors. Glomus tumors are unusual lesions, which can present a diagnostic enigma to an unaware rheumatologist.

REFERENCES

1. Tuncali D, Yilmaz AC, Terzioglu A, Aslan G. Multiple occurrences of different histologic types of the glomus tumor. *J Hand Surg* 2005;30A:161–4.
2. McDermott EM, Weiss AP. Glomus tumors. *J Hand Surg* 2006;31A:1397–400.
3. Bhaskaranand K, Navadgi BC. Glomus tumor of the hand. *J Hand Surg* 2002;27B:3:229–31.
4. Geertruyden JV, Lorea P, Goldschmidt D, et al. Glomus tumours of the hand. A retrospective study of 51 cases. *J Hand Surg* 1996;21B:257–60.
5. Chen SH, Chen YL, Cheng MH, Yeow KM, Chen HC, Wei FC. The use of ultrasonography in preoperative localization of digital glomus tumors. *Plast Reconstr Surg* 2003;112:115–9.

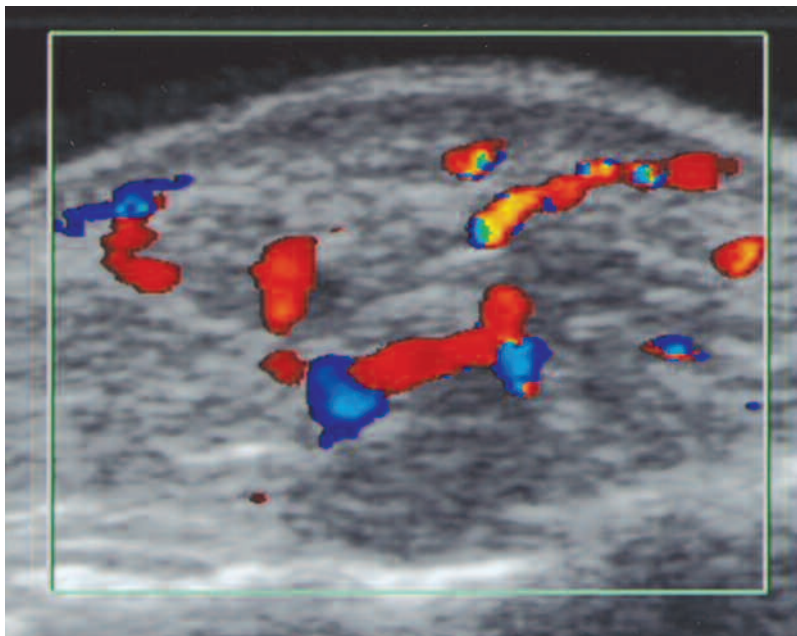


Figure 1. Longitudinal color Doppler 13-5 MHz US image obtained over pulp of the 5th finger shows marked intratumor vasculature related to high-velocity shunts of the glomus tumor.



Figure 2. Sagittal T1 (A), and T1-weighted fat suppression with gadolinium (B) images of distal phalanx of the 5th finger, showing low signal intensity, well defined nodule that enhances with contrast administration.

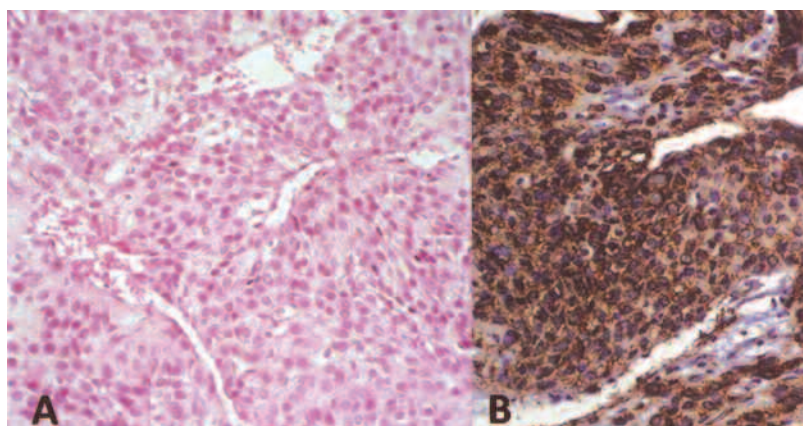


Figure 3. (A) Histology revealed glomus cells with typical centrally located rounded nucleus, and well defined cell membranes with eosinophilic cytoplasm surrounding endothelial-lined vascular spaces. (B) Cells displayed consistent strong immunoreactivity for smooth-muscle actin.