CASE REPOSITORY

An Extradigital Glomus Tumor of the Median Antebrachial Vein

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Glomus tumors are benign vascular neoplasms that arise from specialized dermal arteriovenous anastomoses called glomus bodies. These tumors are most often found in the digital pulp and subungual region of the fingertips; however, a review of the literature suggests that extradigital glomus tumors may occur more often than is generally recognized. Although most extradigital glomus tumors arise within subcutaneous tissues, glomus tumors have occasionally been found within bones, nerves, and blood vessels. An intravascular glomus tumor of the forearm is a very rare occurrence and only a few cases have been reported in the literature. Here we describe a 55-year-old right-handed man with a 10-year history of exquisite tenderness and dysesthesia of his right proximal forearm. Surgical exploration revealed the presence of a mass arising from the median antebrachial vein, which was confirmed histologically to be a glomus tumor. *(J Hand Surg Am. 2017;■(■):1.e1-e4.*

Key words Glomus tumor, extradigital glomus tumor, intravascular glomus tumor, soft tissue tumor, glomus body.

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GLOMUS TUMORS ARE BENIGN vascular neoplasms that arise from neuromyoarterial structures in the reticular dermis called glomus bodies.[1] These tumors are most commonly found in the subungual and digital pulp regions of the fingertips owing to the high concentration of glomus bodies in these areas.[2]

Digital glomus tumors represent approximately 1% to 2.6% of all hand tumors and are more commonly seen in middle-aged women.[3,4] In contrast, extradigital cases account for 11% to 65% of all glomus tumors and are more common in older men.[3–5] Most extradigital glomus tumors arise in subcutaneous tissue, but they can originate in unusual sites including intraosseous, periosteal, intramuscular, intravascular, and intraneural tissues.[3,4,6]

The most common extradigital location for a glomus tumor is the cutaneous layer within the forearm[4]; however, an intravascular glomus tumor is a rare occurrence. Only a few cases[1–5,7–9] have been described since it was first reported by Beham and Fletcher in 1991.[7]

CASE REPORT

A 55-year-old right-handed man was evaluated for well-localized pain and sensitivity of his right forearm. The pain had gradually worsened over a 10-year period and interfered with his activities of daily living. The patient denied any pertinent medical or family history. Physical examination revealed no contour deformities, visible skin lesions, or palpable abnormalities; however, exquisite pinpoint tenderness and dysesthesia was elicited at the medial aspect of his right proximal, volar forearm.

Magnetic resonance imaging (MRI) revealed a small T1 hypointense, T2 hyperintense superficial soft

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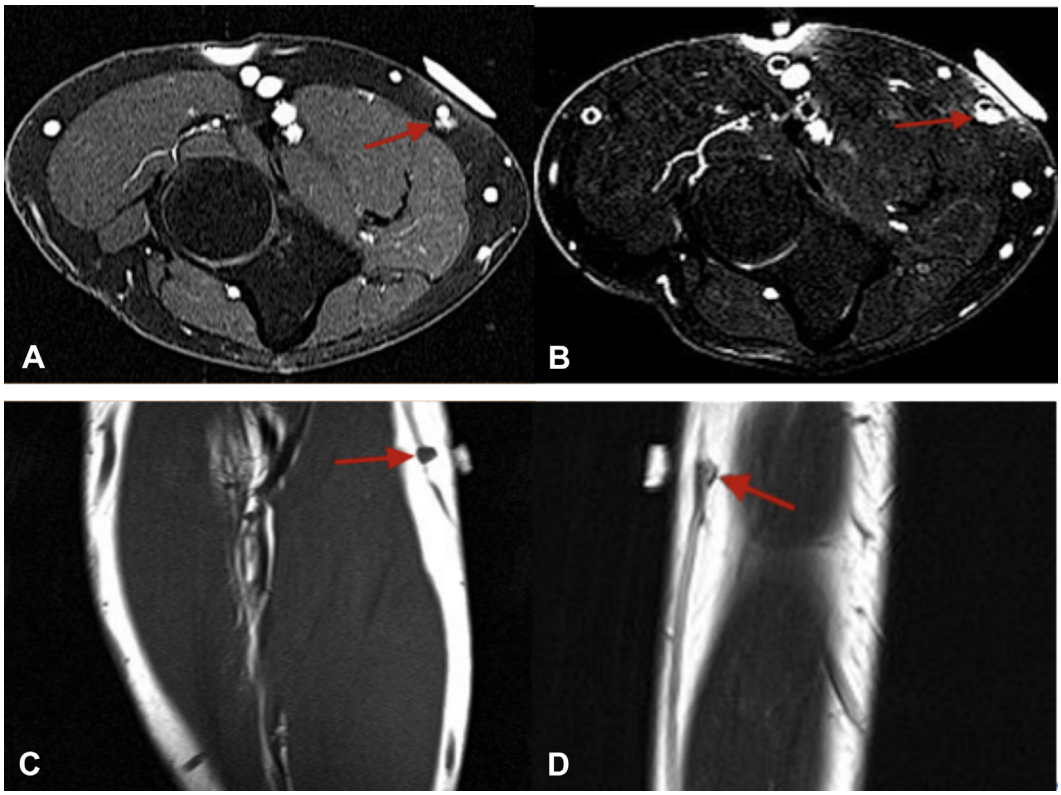

FIGURE 1: Magnetic resonance imaging of the right forearm demonstrates a small T1 hypointense, T2 hyperintense superficial soft tissue mass (arrows) noted within the volar and medial aspect of the forearm. **A** T1-weighted axial image. **B** T2-weighted axial image. **C** T1-weighted postcontrast coronal. **D** T2-weighted postcontrast coronal image.

tissue mass noted within the volar and medial aspect of the forearm (Fig. 1A, B). The lesion measured 6 × 4 × 6 mm and demonstrated diffuse homogenous enhancement on postcontrast imaging (Fig. 1C, D). The lesion was located approximately 2 to 3 mm deep to the dermis and appeared to abut or arise from the median antebrachial cutaneous vein. This mass was nonspecific and diagnostic considerations included a vascular lesion such as an angioma or glomus tumor, a small peripheral nerve sheath tumor, or a lesion arising from the vein (such as a vascular leiomyoma). Additional soft tissue neoplasms could not be excluded.

The patient underwent complete resection of the mass. The region of maximum sensitivity was carefully marked before surgery. Skin incision over this area revealed a superficial vein, approximately 0.5 cm in diameter, with an abnormally enlarged portion that appeared tortuous or aneurysmal, approximately 1.5 cm in greatest diameter. This enlarged venous segment was ligated and completely excised.

The mass was a firm 1.5 × 0.8 × 0.5 cm nodule that appeared to be within the vessel wall. Microscopically, the tumor arose from the wall of the vein, was well circumscribed, and was surrounded by a thin fibrous membrane. It had both vascular areas and solid portions. The cells were of middle to large size with abundant eosinophilic cytoplasm. The nuclei were round to oval, showing small nucleoli. No necrosis or mitotic activity was observed. The morphology was characteristic of a glomus tumor (Fig. 2).

On follow-up approximately 2 weeks later, the patient reported complete resolution of the preoperative pain in his right forearm. Symptom relief persisted at his 2-month follow-up, and he denied having any recurrence of his symptoms.

DISCUSSION

Glomus tumors are benign neoplastic proliferations of modified smooth muscle cells that originate from glomus bodies—specialized arteriovenous anastomoses that aid in temperature regulation. Glomus bodies reside in the reticular dermis and are most commonly found in the ears, palms, finger/toe pads, and nail beds.[4] Glomus tumors can be sporadic or familial, solitary or multiple, digital or extradigital and can originate from any location glomus bodies reside. Although the etiology of a glomus tumor remains unclear, several mechanisms have been suggested to explain an intravascular location. These