

## Glomus Tumor as a Rare Cause of Dizziness

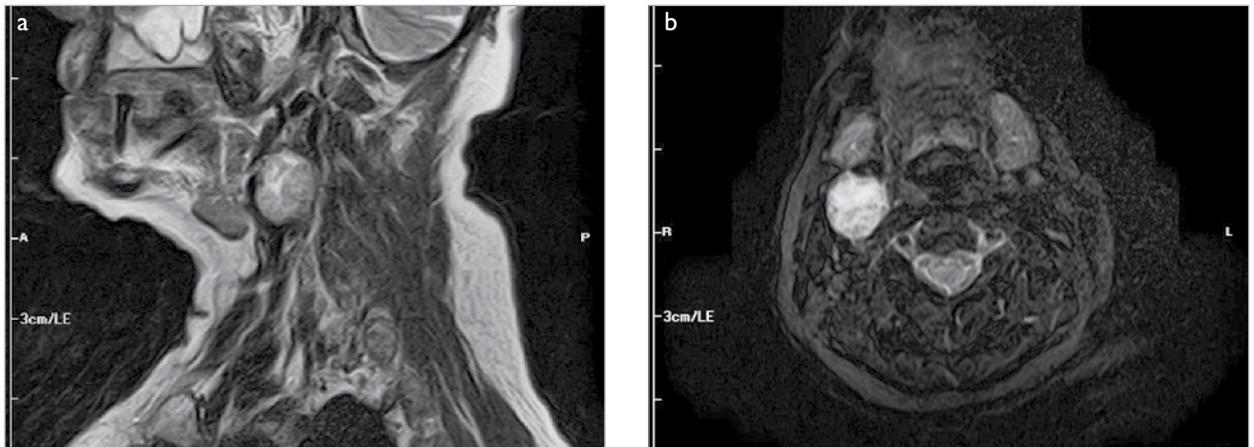
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Dear Editor,

Glomus tumors were described by Rosenwasser in 1945 (1). Glomus body tumors, often abbreviated as glomus tumors, are also known as paragangliomas or chemodectomas. They are a family of benign hypervascular neoplasms arising from the chief cells of the paraganglionic tissues. Furthermore, glomus tumors have vascular structure, comprising cell bundles stained with non chromaffin among thin-walled vascular channels (2,3). These tumors are located on the head, neck, jugular foramen, middle ear cavity, and carotid bifurcation bodies; the vagus nerves are common areas where they are often encountered. Glomus tumors constitute 0.6% of head and neck cancers and 0.03% of all cancers (4). The elapsed time between the onset of symptoms of glomus tumors and their diagnosis may differ from a few months to as long as 25 years. The average diagnosis time can be approximately 3-4 years after the emergence of symptoms (5,6).

A 62-year-old female patient came to our neurology clinic with complaints, which have been occasionally emerging for two years, such as dizziness, particularly when she turns her head to the right, feeling of lightness in the head, and a few times feeling of faintness lasting 10-15 s. Despite the symptomatic treatments, which were previously used after examinations, her symptoms did not recover and intermittently continued. Known hypertension was controlled with oral medications. In her general physical and neurological examination, there were no other symptoms, except dizziness, occurring when she turns her head to the right. Blood tests were within normal limits. Brain magnetic resonance imaging revealed several non-specific ischemic gliotic areas, and the patient had normal cardiac tests that were conducted in terms of differential diagnosis. The carotid vertebral ultrasound examination, conducted to exclude vascular causes, revealed on the right side, at the level of carotid bifurcation, a 20 × 20 × 33 mm in diameter and smooth bordered heterogeneous mass lesion, causing some compression on internal and external carotid arteries (ICA) and (ECA); increased vascular-signal was received inside and outside ICA and ECA. Further, in the spectral analysis low-resistance flow of the arterial structures in the mass was detected. On neck magnetic resonance imaging, solid lesion compatible with sharply demarcated glomus tumor; located between ICA and ECA, on the right in the level of carotid bifurcation, was detected; it revealed contrast enhancement (Figure 1, 2). After the patient was consulted



**Figure 1. a, b.** Solid lesion compatible with sharply demarcated glomus tumor, located between ICA and ECA, on the right side in the level of carotid bifurcation, with contrast enhancement



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with otolaryngology service, she was prepared for the operation. In the preoperative period, the feeder vessels of tumoral tissue were embolized by radiologists. Then, the tumoral tissue was totally resected under general anesthesia. The complaints of the patient completely recovered, she did not complain after the operation, and was followed up for one year.

Many glomus tumors are asymptomatic. The most common symptoms, according to the frequency, can be listed as neck mass, hearing loss, tinnitus, middle ear discharge, ear ache, dizziness, ear bleeding, cranial nerve palsies (2,3,5,6,7). Within the patients complaining of vague dizziness and syncope attacks, differential diagnosis are difficult. In these patients, peripheral (labyrinthitis, Meniere's disease, benign paroxysmal positional vertigo) causes should be distinguished from vascular and central (brain tumor or stroke) causes. Moreover, patients admitted with complaints of syncope and/or pre-syncope should be distinguished as advanced cardiac examinations are often required to eliminate the rhythm disorder, particularly in elderly patients, (heart block, rapid atrial fibrillation, etc.) or valve dysfunction as potential causes (aortic stenosis, etc.). In the case report presented here, the diagnosis was conducted by Doppler ultrasonography, which was followed by a neck MRI. These tumors characteristically show medium signal intensity on T1-weighted sequences, while they appear isointense or mildly hyperintense on T2 weighted sequences. They reveal pronounced hyperintensity after gadolinium (8). In addition to the general systemic symptoms, in the type of catecholamine secreting glomus tumors, in glomus tumors fed from ICA and ECA systems and vertebral systems, there may be many different symptoms and findings (9). The presented case showed that glomus tumors should be considered in the

differential diagnosis of patients presenting with complaints, such as dizziness, loss of balance, syncope attacks.

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