IT'S NOT LOVE! CARDIOVASCULAR SYSTEM CAN LEAVE YOU SPEECHLESS - A CASE REPORT OF ORTNER'S SYNDROME

Cardiovascular

DADOS DO CASO

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ABSTRACT

Ortners syndrome, or cardiovocal syndrome, involves hoarseness due to left recurrent laryngeal nerve palsy from cardiovascular compression. A 61-year-old man with thoracic aortic aneurysm and 8 months of dysphonia showed left vocal fold paralysis. CT revealed thoracic aneurysms, explaining the nerve compression and associated symptoms.

CLINICAL HISTORY

A 61-year-old man with hypertension and a 50-pack-year smoking history presented with eight months of dysphonia and neck pain. Videolaryngoscopy showed left vocal fold paralysis in the median position without secretion or stasis. The right vocal fold remained mobile during phonation.

IMAGING FINDINGS

A CT scan of the neck confirmed the findings of videolaryngoscopy and showed left vocal fold paralysis with asymmetric enlargement of the left laryngeal ventricle, slight medial deviation of the arytenoid cartilage, medial displacement of the ipsilateral aryepiglottic fold and dilatation of the corresponding piriform recess (figure 1 and 2). Chest radiography revealed the presence of a bulging in the subaortic space (aortopulmonary window) (figure 3). A chest CT scan revealed irregular contours, extensive atheromatosis with scattered calcifications, and multiple saccular aneurysms in the descending thoracic aorta. The largest aneurysm, with a maximum transverse diameter of 32 mm and a wide neck measuring 28 mm, originated on the descending aorta immediately after the left subclavian artery and extended inferiorly (figure 4). Of noteworthy importance is the fact that this aneurysm's location corresponds to the path of the left recurrent laryngeal nerve, which provides a potential explanation for the patient's dysphonia.

DISCUSSION

Ortner's syndrome, also known as cardiovocal syndrome, is a rare condition first described in 1897 by the Austrian physician Norbert Ortner. The condition is characterized by hoarseness resulting from paralysis of the left recurrent laryngeal nerve (RLN). The left recurrent laryngeal nerve, a branch of the vagus nerve, innervates the intrinsic muscles of the larynx and follows a tortuous route, bypassing the aortic arch before ascending to the larynx. The proximity of the left recurrent laryngeal nerve (RLN) to the aorta and pulmonary artery renders it susceptible to compression by cardiovascular structures, such as a severely dilated left atrium and a thoracic aortic aneurysm.

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The symptoms of this condition include hoarseness, dysphagia, and shortness of breath during speech due to loss of air, which is secondary to glottal incompetence. In the majority of cases, patients present with hoarseness or alterations in their voice, which is the hallmark symptom of impaired vocal cord function. Ortner's syndrome represents an intriguing intersection between cardiology and otorhinolaryngology. A comprehensive understanding of its underlying pathophysiology and the recognition of associated symptoms are essential for accurate diagnosis and effective treatment. The case presented serves to reinforce the importance of including Ortner's syndrome in the differential diagnosis of hoarseness in patients with cardiovascular risk factors, as it demonstrates the potential for this syndrome to manifest in such patients. Radiology plays a pivotal role in this process, as imaging techniques such as chest X-rays and CT scans are indispensable for identifying the cardiovascular abnormalities that lead to compression of the left recurrent laryngeal nerve. These imaging modalities assist in identifying the underlying cause, guiding appropriate treatment strategies, and improving patient outcomes.

DIFFERENTIAL DIAGNOSIS

• Recurrent laryngeal nerve injury from surgery or trauma;
• Tumors (e.g., lung cancer, mediastinal masses) compressing the recurrent laryngeal nerve;
• Neurological disorders (e.g., vocal cord paresis, stroke);
• Vocal cord paralysis due to viral infections (e.g., varicella-zoster, Epstein-Barr virus);
• Idiopathic vocal cord paralysis;
• Thyroid enlargement or goiter causing compression of the nerve;

TEACHING POINTS

It is crucial for radiologists, particularly those specializing in cardiothoracic and head and neck imaging, to be able to recognize the imaging findings associated with Ortner's syndrome and to understand what information is important to report. Chest and neck computed tomography is an invaluable tool in the initial assessment of these patients.

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FIGURES

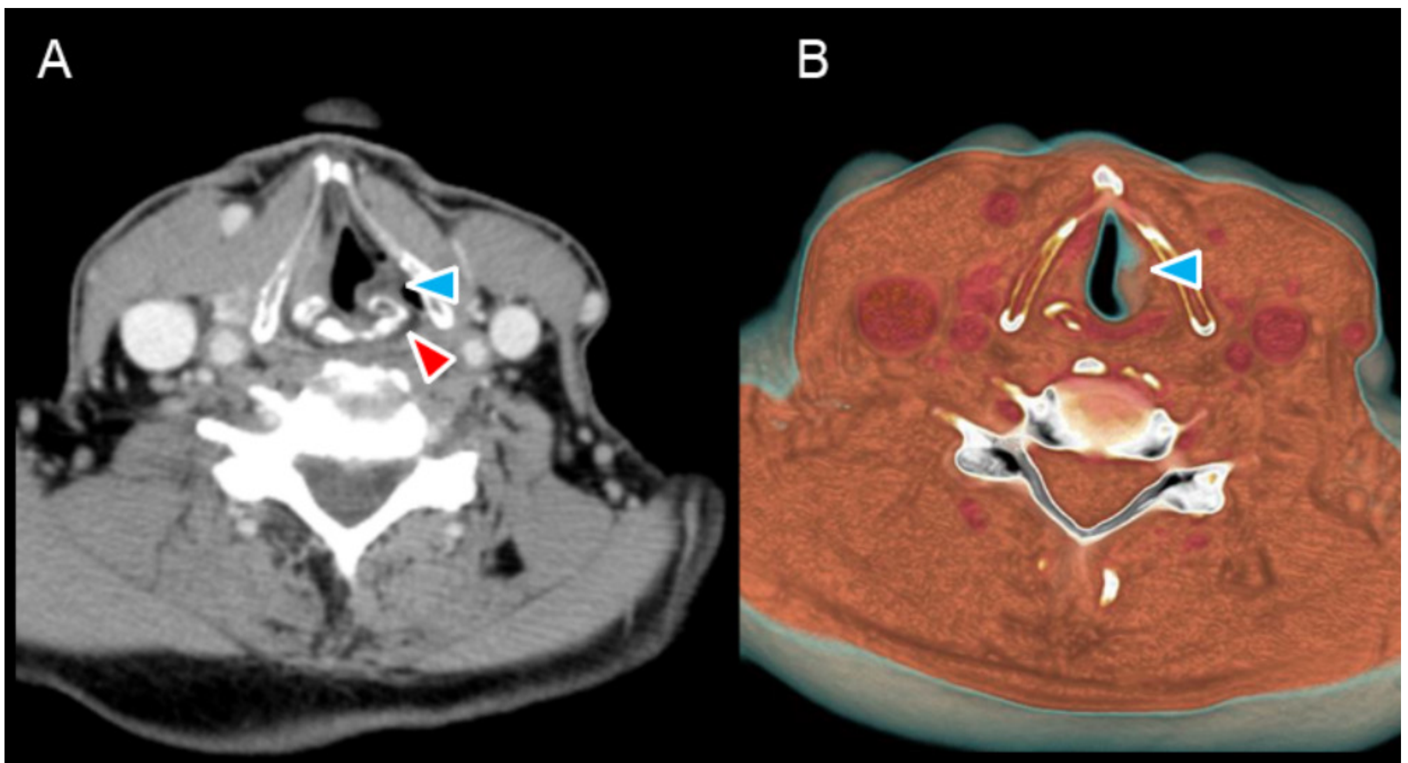

Figure 1 - A computed tomography (CT) scan (A) and volume rendering reconstruction (B) of the neck demonstrate left vocal fold paralysis (blue arrowheads), and medial deviation of the arytenoid cartilage (red arrowheads)

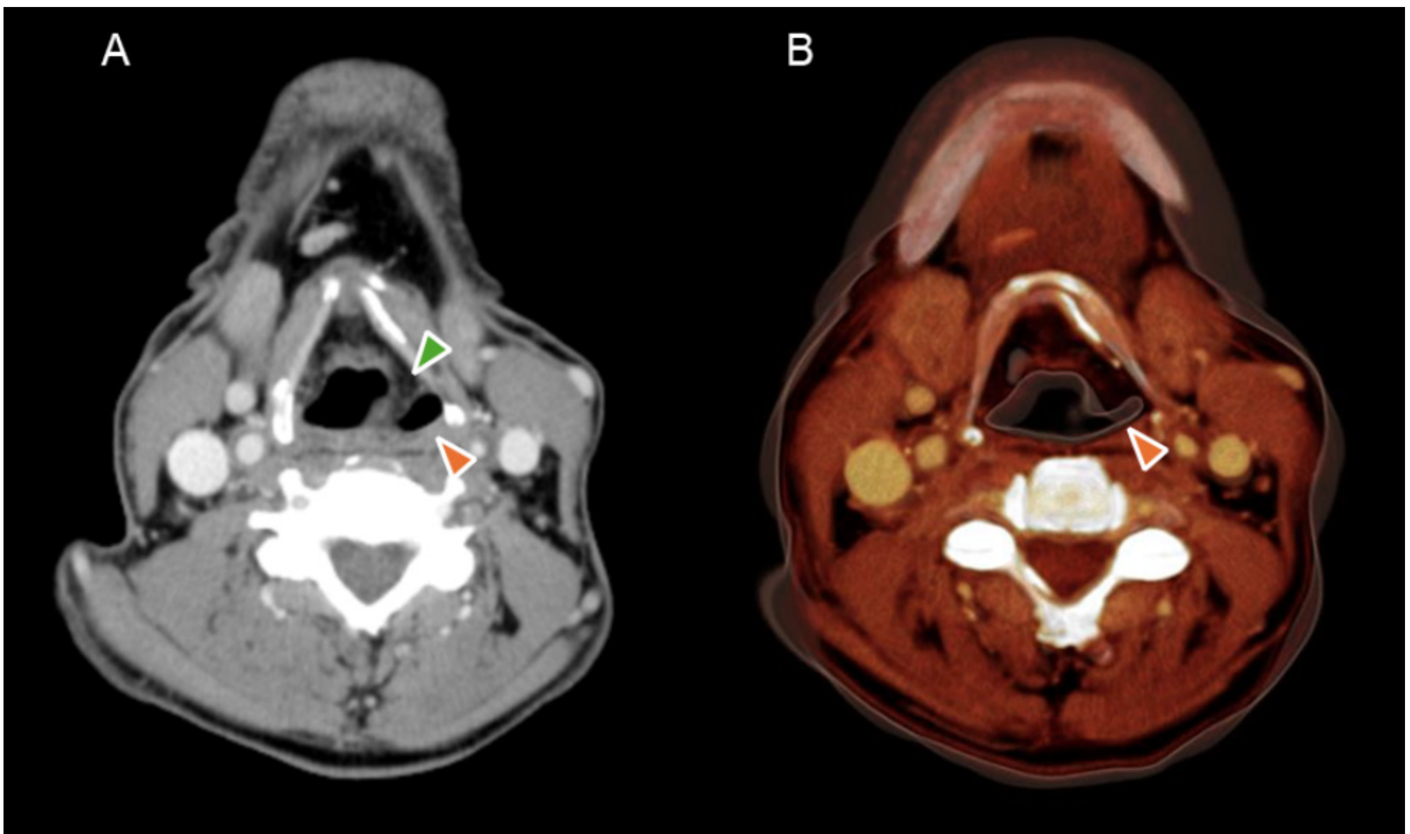

Figure 2 - A computed tomography (CT) scan (A) and volume rendering reconstruction (B) of the neck demonstrate medial displacement of the ipsilateral aryepiglottic fold (green arrowhead) and dilation of the corresponding piriform recess (orange arrowheads).

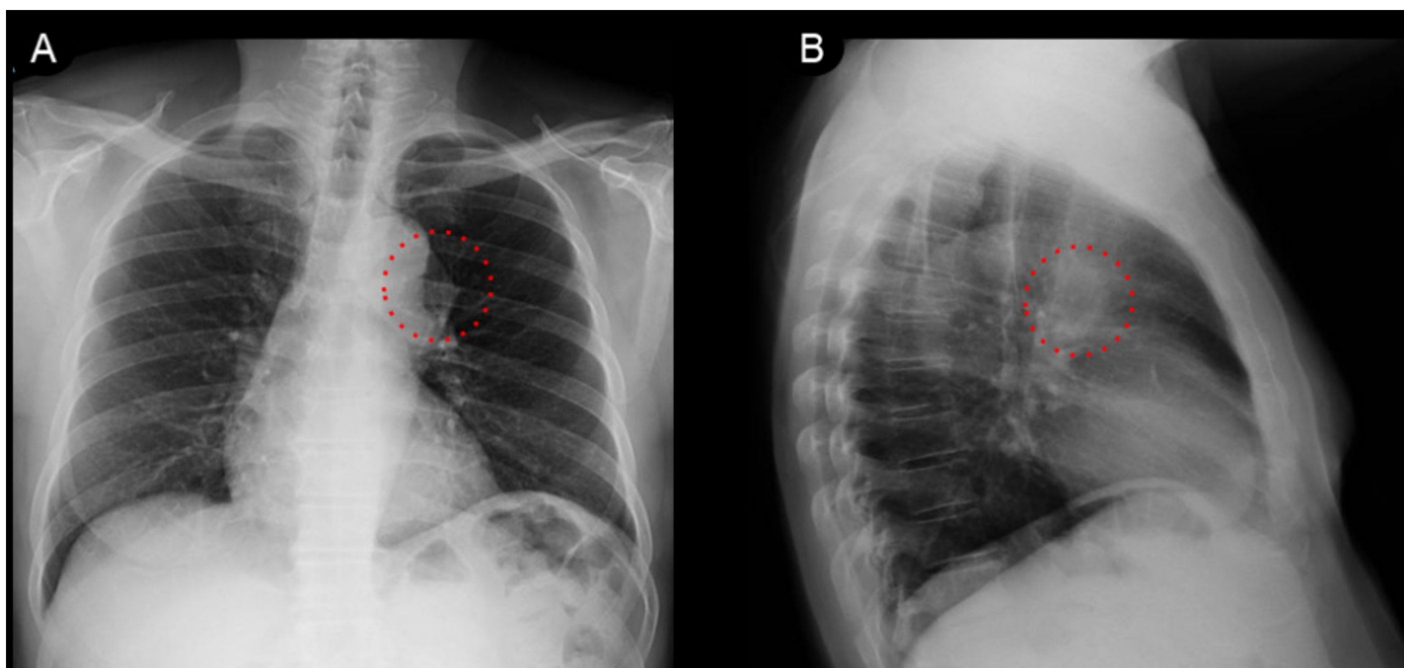

Figure 3 - The anteroposterior (A) and lateral (B) views of the chest radiograph demonstrate a bulging in the subaortic space (aortopulmonary window) (red arrowhead).

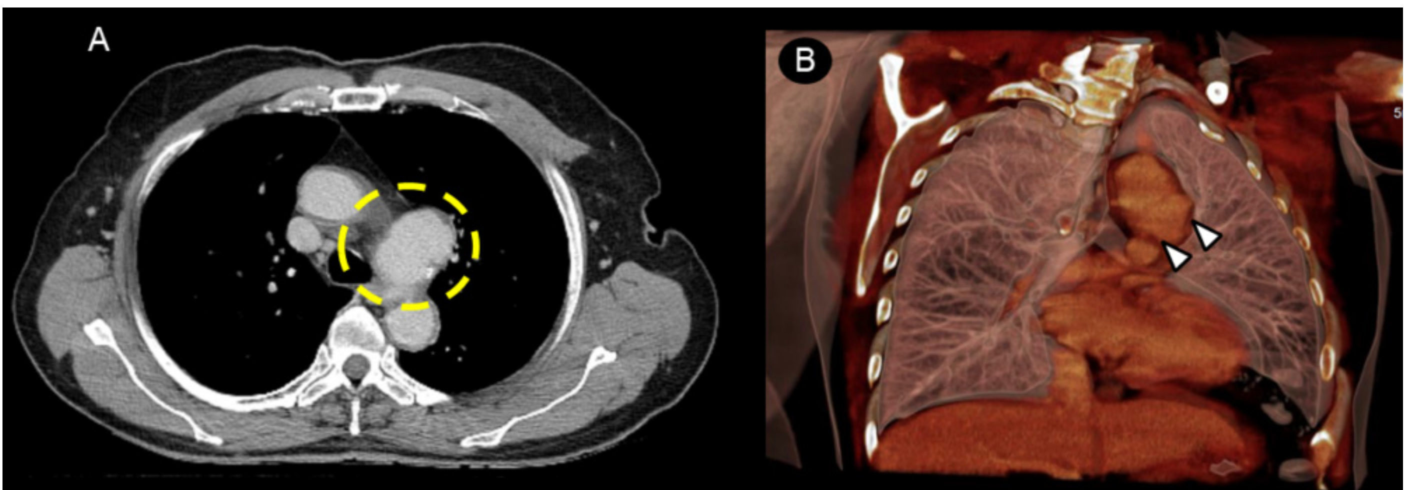

Figure 4 - A chest computed tomography (CT) scan (A) in axial view demonstrate the presence of an aneurysm originating on the descending aorta, in close proximity to the origin of the left subclavian artery. The aneurysm extends inferiorly to the subaortic space (dashed yellow circle). Volume rendering reconstruction (B) in coronal view demonstrate the presence of a descending aorta aneurysm, which extends inferiorly to the subaortic space (white arrowheads).