

中文題目：以聲音沙啞為表現，胸主動脈瘤導致的 Cardio-vocal Syndrome

英文題目：Hoarseness as initial presentation : Cardiovascular syndrome caused by thoracic aortic aneurysm

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## Introduction

Cardio-vocal syndrome (Ortner's syndrome) is a rare condition refers to hoarseness due to recurrent laryngeal nerve palsy secondary to a cardiovascular abnormality. Among those etiologies, aneurysmal dilation is an even rare cause. Here we present a 61-year-old man with hoarseness for 3 months and the etiology was later confirmed as Ortner's syndrome secondary to thoracic aortic aneurysm (TAA)

## Case presentation

A 61-year-old man, with the history of hypertension, was referred from the otorhinolaryngology department for evaluation of hoarseness for 3 months and left vocal cord paralysis was noted by fiberscopy. Associated symptoms included chronic cough with whitish sputum and dyspnea on exertion. He denied fever, dizziness, headache, dysphagia, orthopnea, chest pain, abdominal pain, poor appetite or activity and recent loss of weight. He works as a chef and has a smoking history (1 pack per day for 40 years). He also reported no history of tuberculosis, connective tissue disease or malignancies.

On physical examination, his body mass index is 27.3 kg/m<sup>2</sup>, blood pressure 148/73 mmHg, pulse rate 71/minute, and respiratory rate 17/minute. Peripheral oxygen saturation was above 98%. No clubbing fingers and no palpable lymph nodes were noted. His blood tests, including complete blood count, inflammatory markers, renal and liver function, and tumor marker, were all within the normal limit. 12-lead-electrocardiogram showed normal sinus rhythm. Chest X-ray revealed a 5.8 cm homogeneous, mass-like opacity at the left upper lung area with the loss of aortic silhouette. Thoracic computed tomography revealed a saccular aneurysm with partial thrombosis arising from the thoracic aorta, with flaccid of left aspect of vocal cord. Echocardiography showed no pericardial effusion with normal left ventricle systolic function.

In accordance with the clinical presentations and image findings, Ortner's syndrome secondary to the TAA was diagnosed. The patient was referred to cardiac surgery

department and underwent thoracic endovascular aorta aneurysm repair (TEVAR). The post-operative course was uneventful and he was discharged without complications.

### **Discussion**

Cardio-vocal syndrome, also known as Ortner's syndrome, described by Ortner in 1897, originally referred to the left recurrent laryngeal nerve palsy caused by left atrial enlargement due to mitral stenosis. The term is now used to describe recurrent laryngeal nerve palsy due to any cardiac, aortic, or pulmonary pathology as more cases were reported. The left recurrent laryngeal nerve is susceptible to compression by cardiovascular structures due to its unique path and the small space in aorto-pulmonary window which the nerve travels through.

Ortner's syndrome secondary to aortic aneurysms, which is defined as a permanent aortic dilation with an increment of diameter by at least 50%, has been reported in several literatures. TAAs are usually asymptomatic. If symptomatic, they typically present with chest pain. However, hoarseness is a rare presentation.

Ortner's Syndrome is usually suspected when there is a complaint of hoarseness with a widened mediastinum on chest X-ray. 5% of patients with TAAs, in which the proximal part of descending aorta or distal aortic arch are involved, will develop cardio-vocal hoarseness.

Endovascular stent grafting results in the shrinkage of the excluded and thrombosed aneurysm, reducing the nerve compression. TEVAR is less invasive, less expensive and of a lower operative risk compared to standard open repair of aneurysms. The recovery in hoarseness is highly variable. Voice improvement is expected within a few weeks of surgery and complete resolution has been reported until 4 months after surgery.

### **Conclusion**

Ortner's syndrome is a rare condition secondary to several cardiopulmonary disorders. Here we re-emphasize the importance of the hoarseness caused by unilateral vocal cord palsy. Cardiovascular workup should be performed to make an early diagnosis and appropriate management for potentially life-threatening diseases, such as aortic aneurysm in our case.