

# Cardiovascular Hoarseness: A reversible clinical course to an uncommon and rarely reversible cause

Dominic Parfianowicz DO<sup>1</sup>, Theresa Maitz DO<sup>1</sup>, Shuisen Li DO<sup>1</sup>, Ali Yazdanyar DO<sup>1</sup>

Lehigh Valley Health Network, Allentown PA  
<sup>1</sup>Department of Medicine

## BACKGROUND

- Ortner's syndrome is also known as cardiovascular syndrome.
- Presents with hoarseness from mechanical impingement of the left recurrent laryngeal nerve (RLN) by an enlarged cardiac structure.
- Culprit structures include enlarged left atrium, dilation of the pulmonary artery, and aortic and ventricular aneurysms.
- Responsible for RLN palsy in 1-3% of cases.

## PRESENTATION

- 71-year-old female presented with one week of worsening dyspnea, orthopnea, and new-onset hoarseness. History significant for coronary artery disease status post coronary artery bypass and severe nonrheumatic mitral stenosis.
- She examined markedly volume overloaded. Labs showed demand-mediated myocardial injury, elevated proBNP, acute kidney injury.
- She was admitted for acute exacerbation of diastolic heart failure and started on IV diuresis.
- TTE and right heart catheterization were done which confirmed elevated filling pressures and pulmonary hypertension.
- CT ruled out mediastinal masses or other structures.
- Continued diuresis with vocal cord injection led to near-resolution of phonation.



Figure 1: CT of neck showing medial position of left vocal cord.



Figure 2: Transthoracic echo showing severe mitral stenosis jet in diastole and mitral annular calcification.

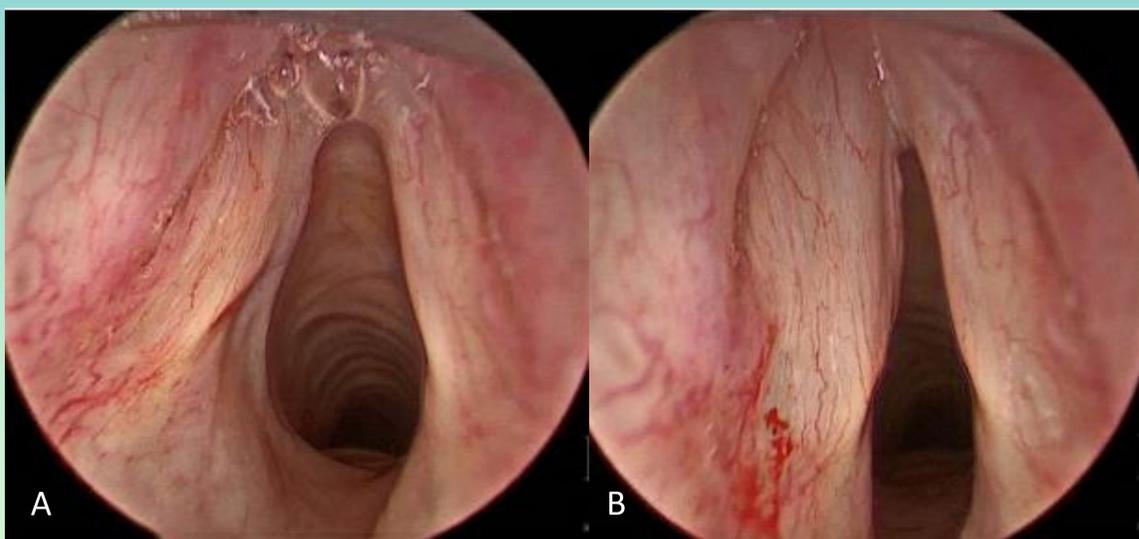


Figure 3: Flexible laryngoscopy before (A) and after (B) vocal cord injection with restylane

## DISCUSSION

- RLN innervates all intrinsic muscles of the larynx excluding the cricothyroid muscle.
- Bilateral nerve involvement, though less common, can present catastrophically with significant breathing and swallowing difficulties.
- Anatomical course of the left RLN, branching from the vagus nerve at the level of the transverse aortic arch and hooking inferiorly under the aorta, makes it more prone to injury.
- The most frequent causes of RLN palsy are iatrogenic in the setting of surgery, tumor impingement, and idiopathic.
- RLN palsy from a cardiac culprit, however, is rare.

## CONCLUSION

- Ortner syndrome is a rare cause of RLN palsy. It is a diagnosis of exclusion to be considered after ruling out more pressing etiologies.

## REFERENCES

1. Subramaniam V, Herle A, Mohammed N, Thahir M. Ortner's syndrome: case series and literature review. *Braz J Otorhinolaryngol.* 2011 Sep-Oct;77(5):559-62. doi: 10.1590/s1808-86942011000500004
2. Hurtarte Sandoval AR, Carlos Zamora R, Gómez Carrasco JM, Jurado Ramos A. Ortner's syndrome: a case report and review of the literature. *BMJ Case Rep.* 2014 Jul 17;2014:bcr2013202900. doi: 10.1136/bcr-2013-202900.