



Non Recurrent Inferior laryngeal Nerve: Case Report

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

The non-recurring lower laryngeal nerve is an extremely rare anatomical variation. It occurs only on the right (except in the case of situs inversus). Knowledge of this anatomical variation is essential for identifying and preserving the nerve during thyroid surgery. We present the case of a patient with a non-recurring lower laryngeal nerve discovered during a total thyroidectomy. We present the case of a patient with a non-recurrent inferior laryngeal nerve discovered during a total thyroidectomy.

Keywords: Inferior laryngeal nerve; non recurrent; thyroidectomy.

1. INTRODUCTION

"The Non-Recurrent Laryngeal Nerve (NRLN) is a rare embryologically-derived variant of the Recurrent Laryngeal Nerve (RLN). The presence of an NRLN significantly increases the risk of iatrogenic injury and operative complications. This atypical vascular pattern permits the nerve to migrate freely into the neck as the fetus grows longitudinally [1-3]. NRLNs on the left side have only been reported a few times, all of them

accompanied by other significant pathologies such as situs inversus" [4-6]. We present the case of a patient with a non-recurring lower laryngeal nerve discovered during a total thyroidectomy.

2. CASE STUDY

She is a 36-year-old patient, with no particular history, admitted to our department for the management of a multi-nodular compressive

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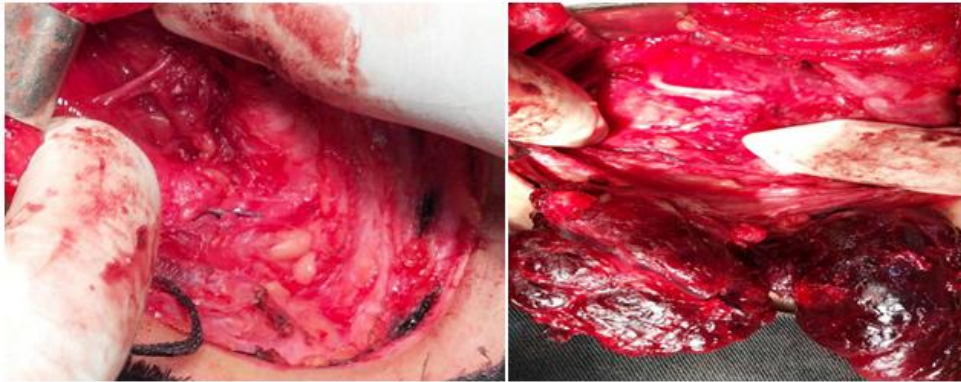


Fig. 1. Images showing the inferior laryngeal nerve

goitre. A total thyroidectomy was indicated. At the time of the operation, the lower laryngeal nerve on the right side had not been identified on its usual path; it came directly from the vagus nerve and was heading towards the right tracheal crico angle. The post-operative follow-up was uncharacteristic.

3. DISCUSSION

The inferior laryngeal nerve is classically identified using the markers of the inferior thyroid artery and the inferior edge of the thyroid cartilage. When the nerve is not identified despite the correct use of its locator elements, the possibility of a non-recurring inferior laryngeal nerve should be kept in mind. The dissection and then the mobilization of the vagus nerve could “show” us the path of the laryngeal recurrent nerve [7]. Logically, retrograde dissection of the nerve from its entry into the crico-tracheal angle could help identify the nerve. Other authors proposed the identification of patients with a non-recurrent lower laryngeal nerve by doppler ultrasound [8,9]. This abnormality is estimated to be 0.5% among thyroidectomy cases, it is the consequence of an embryologic abnormality in the development of the gill arches. Laryngeal nerve monitoring is a safe, simple and effective method for intraoperative monitoring during thyroid or parathyroid surgery.

4. CONCLUSION

Knowledge of the anatomical variations of the inferior laryngeal nerve is essential for the prevention of complications of thyroid surgery.

CONSENT

As per international standard or university standard, patients’ written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Srinivasan V, Premachandra DJ. Nonrecurrent laryngeal nerve: identification during thyroid surgery. *ORL J Otorhinolaryngol Relat Spec.* 1997;59:57–59. [PubMed] [Google Scholar]
2. Nonrecurrent laryngeal nerve during carotid artery surgery: case report and literature review. M. Coady, F. Adler, J. Davila, V. Gahtan *Medicine Journal of Vascular Surgery*; 2000.
3. Nonrecurrent Inferior Laryngeal Nerve Related to Thyroid Surgery: Review of Ten Cases Jeong A Mo Y. Shim G. Lee, Moon Sang Jung *Medicine*; 2009.
4. Henry et al. Henry JF, Audiffret J, Denizot A, Plan M. The nonrecurrent inferior laryngeal nerve: review of 33 cases, including two on the left side. *Surgery.* 1988;104:977–984.
5. Toniato et al. Toniato A, Mazzarotto R, Piotta A, Bernante P, Pagetta C, Pelizzo MR. Identification of the nonrecurrent laryngeal nerve during thyroid surgery: 20-year experience. *World Journal of Surgery.* 2004;28:659–661.
6. Hong, Park AMP; Yang, Hong KH, Park HT, Yang YS. Characteristic travelling patterns of non-recurrent laryngeal nerves.

- The Journal of Laryngology and Otology. 2014;128:534–539.
DOI:10.1017/S0022215114000978
7. The nonrecurrent inferior laryngeal nerve: review of 33 cases, including two on the left side. J. Henry, J. Audiffret, A. Denizot, M. Plan Medicine Surgery; 1988.
 8. Toniato A, Mazzarotto R, Piotto A. Identification of the nonrecurrent laryngeal nerve during thyroid surgery: 20-year experience. World J Surg. 2004;28(7):659–61. [PubMed] [Google Scholar]
 9. Procacciante F, Picozzi P, Pacifici M, Picconi S, Ruggeri S, Fantini A, et al. Palpatory method used to identify the recurrent Laryngeal Nerve during thyroidectomy. World J Surg. 2000;24(5):571–573. [PubMed] [Google Scholar]

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