Case study

Non recurrent inferior laryngeal nerve: case repport

Abstarct

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.

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Keywords: inferior laryngeal nerve – non recurrent - thyroidectomy

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. NRLNs on the left side have only been reported a few times, all of them accompanied by other significant pathologies such as situs inversus (Henry et al., 1988; Toniato et al., 2004; Hong, Park & Yang, 2014). We present the case of a patient with a non-recurring lower laryngeal nerve discovered during a total thyroidectomy.

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 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.

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 [5]. 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. 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.

Conclusion:

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

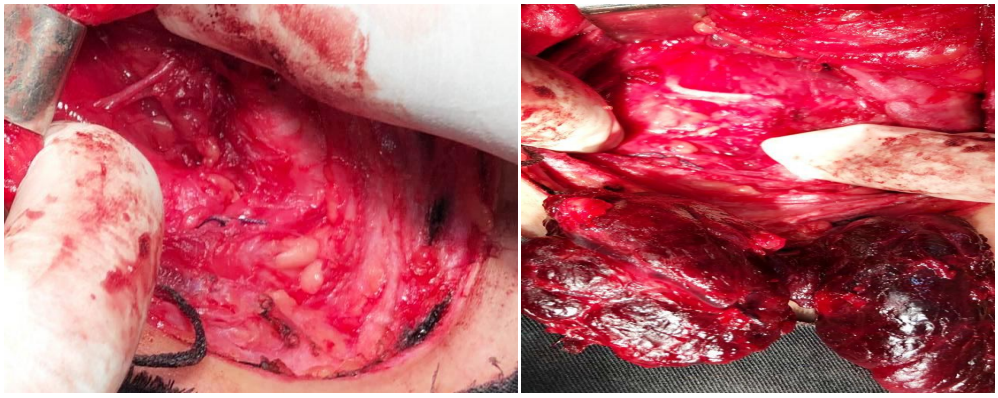

Fig 1: images showing the inferior laryngeal nerve

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