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Case summary

A 25 year lady presented with anterior neck swelling diagnosed as multinodular goiter. Thyroid profile was within normal limits. Indirect laryngoscope was normal. Patient was planned for subtotal thyroidectomy (Dunhill procedure). During the procedure, we identified the non-recurrent laryngeal nerve on right side (figure1). It was direct branch from the right vagus nerve, no branch seen along the trachea-esophageal groove. We preserved the nerve without any damage. No anomaly found on opposite side. In the literature review, the non-recurrent laryngeal nerve (NRLN) is a rare anomaly (0.5–0.6%) on the right side (1), extremely rare on the left side (0.004%). This increases the risk of damage to the nerve during surgery. Only during dextrocardia we can see a left non-recurrent laryngeal nerve (1). This rare anatomical variation on right side associated to anatomical irregularities of the subclavian arteries (1). The right subclavian artery is retro-esophageal arising directly from the aortic arch (2). According to many authors, the chances of an injury is greater during thyroid surgery due to either unfamiliarity from surgeon of this variation or technical difficulty to recognize and preserve the nerve in these cases(3). The diagnosis of this anatomical variation is rarely performed before surgery and only a CT scan of the neck showing a retro-esophageal subclavian artery will make us suspect of its occurrence(4). Detection of an anomalous nerve usually occurs during surgery and incidentally. So we wish to aware surgeons who performing thyroidectomies and the importance of the non-recurrent laryngeal nerve exposure, avoiding its incidental injury.

References

Illustrations

Illustration 1

Figure 1. (A) showing Non-recurrent laryngeal nerve (NRLN) arising directly from the right vagus nerve, inferior thyroid artery (ITA) thyroid gland and trachea.

Illustration 2

Figure 2. (B) showing non-recurrent laryngeal nerve on right side.
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