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## Letter to the Editor

### Post-thyroidectomy Horner's syndrome



A 46-year-old woman, with no notable history, underwent left hemithyroidectomy for a thyroid nodule with a long axis of 2 cm, with a suspicion of malignancy. The procedure was performed according to the standard surgical technique with identification of the recurrent laryngeal nerve and no anatomical variant was detected. Frozen section and definitive histological examination of the specimen did not reveal any signs of malignancy. Immediately postoperatively, the patient presented ptosis associated with left myosis, corresponding to left Horner's syndrome. The rest of the neurological examination was normal. Nasal endoscopy revealed mobile vocal cords and the patient presented no signs of neck haematoma. Doppler ultrasound examination of the neck vessels did not reveal any signs of carotid artery dissection or neck collection. MRI did not visualize any neck or brain lesions. The patient's ophthalmological signs remained unchanged three months post-operatively (Fig. 1) [1].

Horner's syndrome consists of myosis, ptosis, pseudo-enophthalmos, anhidrosis and vascular dilatation on one side of the face [1] secondary to a lesion of the ipsilateral cervical sympathetic trunk. The cervical sympathetic trunk prepares

the body for action: tachycardia, vasoconstriction, secretion of adrenaline, mydriasis, bladder relaxation. This trunk is composed of three ganglions: superior, middle and inferior [2], comprising numerous anatomical variants such as inconstancy of the middle cervical ganglion or fusion of the inferior cervical and thoracic ganglion. The sympathetic trunk extends along the prevertebral layer of cervical fascia, posteriorly to the carotid sheath (Fig. 1). Postganglionic fibres travel along the internal carotid artery, enter the cavernous sinus and terminate in the iris dilator muscle. A branch innervates Müller's muscle, the upper eyelid retractor. Connections exist between the sympathetic trunk and the ipsilateral vagus nerve. The sympathetic trunk is supplied by the inferior thyroid artery, the ascending cervical artery, the vertebral artery and the costocervical trunk.

The first description of Horner's syndrome complicating thyroid surgery was reported in 1915. Fewer than 30 cases have been reported in the literature, and all share in common the absence of anhidrosis and vascular dilatation of one side of the face. However, the time to onset of symptoms, the persistence or remission of symptoms, and the time to remission are very variable, suggesting several mechanisms of cervical sympathetic trunk injury, such as [3]: compression of the trunk by retractors, ischaemic nerve injury due to ligation of the inferior thyroid artery, an anatomical

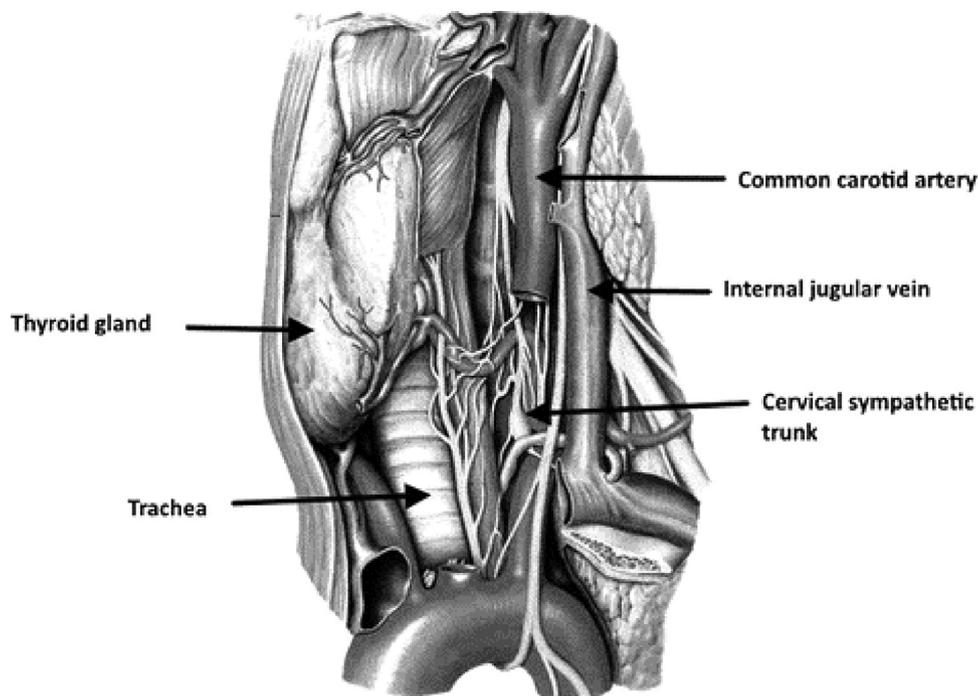


Fig. 1. Anatomical relations between the sympathetic trunk and the thyroid gland.

variant, a postoperative compressive neck haematoma or section of the connection between the sympathetic trunk and the recurrent laryngeal nerve during dissection of this nerve. Cases of Horner's syndrome have been reported after surgery for benign as well as malignant lesions and also during minimally invasive surgery [4].

Horner's syndrome is confirmed on ophthalmological examination by an apraclonidine test inducing dilatation of the pathological pupil and elevation of the ipsilateral upper eyelid. Eyelid surgery consisting of resection of Müller's muscle and connective tissue can be proposed after a period of 6 months.

#### Disclosure of interest

The authors declare that they have no competing interest.

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M. Perréard<sup>a,\*</sup>  
H. Bailleul<sup>b</sup>  
E. Babin<sup>a</sup>

<sup>a</sup> Service d'ORL, CHU de Caen, 14000 Caen, France

<sup>b</sup> Service d'ophtalmologie, CHU de Caen, 14000 Caen, France

\* Corresponding author. Service d'ORL, CHU de Caen, avenue de la Côte-de-Nacre, 14000 Caen, France.

E-mail address: [perreard.marion@gmail.com](mailto:perreard.marion@gmail.com)  
(M. Perréard)