

Horner syndrome after radical neck surgery for anaplastic thyroid carcinoma

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DESCRIPTION

A 63-year-old woman presented with a right anterior neck mass that enlarged rapidly over 2 months. She had dysphagia but did not have hoarseness, dyspnoea or thyrotoxic symptoms.

Preoperative CT scan revealed a 7.6×8.8×7.3 cm mass, well-defined, heterogeneously enhancing with coarse calcifications arising from the right thyroid lobe. It encased the right common carotid artery and infiltrated the right internal jugular, external jugular and brachiocephalic veins. It extended inferiorly up to the level of the thoracic inlet. There were multiple enlarged lymph nodes in the neck. There was evidence of lung metastases as well.

Fine-needle aspiration was suspicious for papillary thyroid carcinoma, but the behaviour and extent were more compatible with anaplastic carcinoma.

Palliative surgery was performed to improve cosmesis and to prevent airway obstruction. Frozen section confirmed anaplastic thyroid carcinoma. The patient underwent thyroidectomy and radical neck dissection on the right. Dissection was limited to the right to avoid complications of bilateral neck dissection such as persistent hypocalcaemia and bilateral recurrent laryngeal nerve injury, cognisant of the fact that extensive dissection would not fully resolve this already metastatic disease.

Postoperatively, the patient developed ptosis and pupillary constriction, or miosis, of the right eye (figure 1).

Horner syndrome, or oculosympathetic paresis, is the finding of ptosis, miosis and facial anhidrosis due to involvement of the ipsilateral carotid plexus of the sympathetic trunk. In this patient, Horner syndrome was due to dissection around the carotid artery, to which the carotid plexus is intimately related, as the tumour had encased the carotid artery. The carotid plexus innervates the superior tarsal muscle, lifting the upper eyelid together with the levator palpebrae and the radial muscle of the iris, which dilates the pupil. Horner syndrome is a

rare but fortunately non-life-threatening neurological sequela of thyroid surgery.^{1–3} Its occurrence after neck surgery can range from 0.56% to 9.8%.^{4,5}

These eye changes may initially be dismissed as being unrelated to the surgery, but knowledge and understanding of neck anatomy can explain this physical examination finding after dissection around the carotid artery.

The patient was satisfied with her improved appearance after the removal of the large neck mass. The unilateral ptosis was a change in her appearance that was easier for her to accept than having a large neck mass. The Horner syndrome was not disabling as it did not affect the patient's vision.

The patient was to undergo radiation therapy but did not consent to chemotherapy.

Learning points

- ▶ Horner syndrome is the triad of ptosis, miosis and facial anhidrosis. In this patient, it developed after radical neck dissection with extensive dissection around the carotid artery for anaplastic thyroid carcinoma.
- ▶ Horner syndrome is due to involvement of the cervical sympathetic plexus around the carotid artery.
- ▶ It is a rare but fortunately non-life-threatening neurological sequela of radical neck surgery.

Contributors MASS and ACC were both involved in the care of the patient, recognition of the physical examination finding and writing up of the article.

Competing interests None declared.

Patient consent Obtained.

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Figure 1 Ptosis and miosis of the right eye (Horner syndrome) developed after right radical neck dissection.



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