NEUROLOGICAL PICTURE

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Intracranial hypertension after unilateral neck dissection

A 32-year-old, otherwise healthy man with recurrent metastatic papillary thyroid carcinoma underwent total thyroidectomy with modified radical neck dissection on the right side that included removal of the internal jugular vein. On the second postoperative day, he had ipsilateral conjunctival chemosis. Three weeks later, he was referred for headache, pulse synchronous tinnitus and binocular horizontal diplopia. Examination showed bilateral chemosis (fig 1) and papilloedema (figs 1 and 2) with bilateral sixth cranial nerve palsies. Cranial magnetic resonance imaging was normal and post-gadolinium contrast enhanced magnetic resonance venography¹ showed a hypoplastic left transverse sinus without evidence of venous sinus thrombosis (fig 3). Lumbar puncture showed normal cerebrospinal fluid contents, but an increased opening pressure of 460 mm of water. The patient started treatment with systemic acetazolamide and improved over the next 3 months. Of the 13 reported similar cases from the literature, 11 had right-sided surgery.²⁻⁵ Of the two cases of left sided surgery, one had a left-side dominant venous circulation and the other could not be determined.

On the basis of our case and our review of the literature, we propose that intracranial hypertension after unilateral neck dissection without venous sinus thrombosis may be due to

Figure 1 (A,B) Slit lamp photograph showing bilateral conjunctival chemosis predominantly in the right eye. (C,D) Fundus photograph showing grade IV papilloedema in both eyes.

Figure 2 (A,B) Goldmann perimetry showing an enlarged blind spot with inferior nasal step in both eyes. (C,D) Optical coherence tomography showing thickened peripapillary nerve fibre layer thickness consistent with optic disc oedema.

Figure 3 Contrast-enhanced magnetic resonance venogram showing absence of the right internal jugular vein, and numerous collateral vessels (CV). The left internal jugular vein (IJV) is normal. The right transverse sinus (TS) is dominant and of normal size. The left transverse sinus is hypoplastic (hTS). There is no venous sinus thrombosis. R, right; L, left.

hypoplasia or atresia of the contralateral cerebral venous sinus anatomy.² We recommend post-gadolinium contrast enhanced (eg, three-dimensional auto-triggered elliptical centric-ordered (ATECO)) magnetic resonance venography in this setting. Head and neck surgeons and ophthalmologists should be

aware that the cerebral venous drainage is usually dominant on the right side. We recommend postoperative cranial magnetic resonance with post-gadolinium contrast enhanced (eg, ATECO) magnetic resonance venography when a patient becomes symptomatic with headache or diplopia or shows signs of orbital congestion.

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Informed consent was obtained for publication of figure 1.

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