Sixth nerve palsy in nasopharyngeal carcinoma

Jane W. Chan, MD, Las Vegas, NV

A 45-year-old man who had a 12 pack-year smoking history presented with a 7-month history of headaches and acute horizontal diplopia and dizziness. Examination revealed only a complete right abduction deficit. After undergoing neoadjuvant chemotherapy followed by concurrent chemoradiotherapy, his diplopia resolved.

He developed an isolated sixth nerve palsy, a rare neuroophthalmologic presentation for this tumor. Only one other case has noted an isolated sixth nerve palsy.1 Another showed optic nerve involvement as the only presenting sign.2 Perineural invasion of this cranial nerve remained clinically silent when its spread was still confined below the base of the skull. Nasopharyngeal carcinoma should be considered in the differential diagnosis of an isolated, nonprogressive chronic sixth nerve palsy of more than 6 months duration.


Figure. (A) The nasopharyngeal carcinoma (arrows) is encasing both carotid arteries in the cavernous sinus of this patient, as seen on this coronal view of the MRI of the brain with gadolinium. (B) Histologic cross-section of the right sixth nerve showed perineural invasion (arrow) by a poorly differentiated squamous cell carcinoma of the non-keratinizing subtype (hematoxylin and eosin, ×100).
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Neurology 2003;61;1417
DOI 10.1212/01.WNL.0000090567.33686.A3

This information is current as of November 24, 2003