Teaching Video NeuroImage: Papilledema and Cavernous Sinus Fistula Caused by Occipital Dural Arteriovenous Malformation in a Patient With Postoperative Laryngeal Cancer

Chaoyi Feng, MD, PhD, Qian Chen, MD, PhD, Weimin Chen, MD, Jianjun Tang, MD, PhD, Xinghuai Sun, MD, PhD, and Guohong Tian, MD, PhD

Neurology® 2021;97:e1751-e1752. doi:10.1212/WNL.0000000000012267

Correspondence
Dr. Tian
valentian99@hotmail.com

A 67-year-old man complained of red and bulging eyes for 3 months. He was diagnosed with laryngeal cancer and his bilateral internal jugular vein (IJV) was resected during the surgery. Ophthalmic examination revealed corkscrew-shaped arterialized conjunctival veins and severe bilateral papilledema. Magnetic resonance angiography revealed malformation vessels near the right sigmoid sinus (Figure). Cerebral digital subtraction angiography revealed an occipital dural arteriovenous malformation (AVM) near the right sigmoid sinus and venous drainage of

(A) Bilateral conjunctival corkscrew-shaped arterialized veins. (B) Bilateral papilledema, with severe peripapillary hemorrhage in the right eye due to the venous stasis. (C) Cerebral magnetic resonance angiography reveals abnormal vessels near right sigmoid sinus (arrows).

From the Department of Ophthalmology (C.F., Q.C., X.S., G.T.), Eye and ENT Hospital, Fudan University; Department of Neurology (W.C., J.T.), Deji Hospital; and State Key Laboratory of Medical Neurobiology (X.S., G.T.), Institutes of Brain Science, Fudan University, Shanghai, China.

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the brain with a retrograde direction to cavernous sinus, superior/inferior ophthalmic vein, and finally external jugular vein, due to the resection of IJV (Video 1). After the embolization, most of the abnormal flow disappeared (Video 2), with partially improved papilledema on late follow-up. There is a very high probability that the formation of dural AVM is a complication of the neck dissection.

**Study Funding**
The authors were supported by grants from the State Key Program of National Science Foundation of China (82030027).

**Disclosure**
The authors report no disclosures relevant to the manuscript. Go to Neurology.org/N for full disclosures.

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Neurology 2021;97:e1751-e1752 Published Online before print May 26, 2021
DOI 10.1212/WNL.0000000000012267

This information is current as of May 26, 2021

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