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

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Figure Clinical and Imaging Findings

(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).

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

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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.

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Disclosure

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Appendix Authors

Name	Location	Contribution
Chaoyi Feng, MD, PhD	Department of Ophthalmology, Eye Ear Nose and Throat Hospital of Fudan University, Shanghai, China	Major role in data acquisition, analyzed the ophthalmic examinations, drafted the manuscript for intellectual content
Qian Chen, MD, PhD	Department of Ophthalmology, Eye Ear Nose and Throat Hospital of Fudan University, Shanghai, China	Major role in data acquisition, performed B scan and other images

Appendix (continued)

Name	Location	Contribution
Weimin Chen, MD	Department of Neurology, Deji Hospital, Shanghai, China	Major role in data acquisition, diagnosis and analyzed the data
Jianjun Tang, MD, PhD	Department of Neurology, Deji Hospital, Shanghai, China	Major role in data acquisition, digital subtraction angiography treatment
Xinghuai Sun, MD, PhD	Department of Ophthalmology, Eye Ear Nose and Throat Hospital of Fudan University; State Key Laboratory of Medical Neurobiology, Institutes of Brain Science, Fudan University, Shanghai, China	Designed and conceptualized the study, grant support
Guohong Tian, MD, PhD	Department of Ophthalmology, Eye Ear Nose and Throat Hospital of Fudan University; State Key Laboratory of Medical Neurobiology, Institutes of Brain Science, Fudan University, Shanghai, China	Designed and conceptualized the study, major role in data acquisition, interpreted the data, drafted the manuscript for intellectual content

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