LETTER TO THE EDITOR

Multiple Mixed Cavernous and Venous Hemangioma of the Orbit

A 28-year-old man presented himself for progressive proptosis of the right eye and diplopia for 5 years. On examination, his best-corrected visual acuity was 20/50 (OD), 20/20 (OS) and a dark-colored, firm mass was found to protrude beneath the right fornical conjunctiva. Down gaze in the right eye was mildly restricted and 2-mm proptosis in the right eye was determined by Hertel exophthalmometry. Magnetic resonance imaging disclosed four masses in the right orbit, showing hypointensity in T1-weighted images (Figure 1) and hyperintensity with tubular low signal intensity in T2-weighted images.

The tumors were surgically removed through a lateral orbital approach smoothly. Grossly, these four tumors showed bluish red discoloration and were well-encapsulated. Histopathologically, each of the tumors showed mixed characteristics of both cavernous and venous hemangioma. For all parts of the lesions, endothelial cell makers (CD31 and CD34) were positive. Part of the specimen showed proliferation of cavernous vascular spaces filled with blood, lined by flat endothelial cells, and separated by fibrous septa (Figure 2B and lower portion of Figure 2A), which is typical of cavernous hemangioma. However, the other part was characterized by sinusoidal vascular spaces with a few lymphocytic infiltrates and prominent smooth muscle cells (Figure 2C and upper left portion of Figure 2A), a finding typical of venous hemangioma. Two months postoperatively, his best-corrected visual acuity was 20/25 in the right eye and 20/20 in the left eye. No proptosis was noted and the diplopia resolved.

Cavernous hemangioma is the most common primary orbital tumor in adults.1 Contrariwise, orbital venous hemangiomas are rare.2–6 Grossly, both lesions are red-discolored and well-encapsulated.1–6 Cavernous hemangioma is characterized by engorged vascular channels lined by a single layer of endothelial cells, tightly knit, and separated by fibrous septa.1 Venous hemangioma, however, contains prominent smooth muscle in the vascular interstitium.2–6 Based on the unique pathological features in this case, multiple mixed cavernous and venous hemangiomas were diagnosed.

The relationship between cavernous and venous hemangioma in the brain has been discussed.7,8 For the orbit, the coexistence of these two vascular tumors in one orbit has only been reported by Kodama et al.5 Their findings have suggested that cavernous hemangioma and venous hemangioma may have a similar pathogenesis and may be two variations of a common disease. Similarly,
each of the four lesions in the current case had mixed pathological features of cavernous and venous hemangioma. We believe that this case further supports the postulated relationship between cavernous and venous hemangioma.

References


Chi-Hsin Hsu, Wen-Ming Hsu, I-Chan Lin, Yun-Dun Shen
Department of Ophthalmology, Taipei Medical University – Shuang Ho Hospital, New Taipei City, Taiwan

* Corresponding author. Y.-D. Shen. No. 291, Zhongzheng Road, Zhonghe District, New Taipei City 231, Taiwan.
E-mail: Y.-D. Shen <ydshen0208@gmail.com>

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