

**Editors' Note:** Two WriteClick submissions this week referenced Teaching NeuroImages. In response to an image purported to show reversible splenial cytotoxic edema due to acute mountain sickness resulting in a seizure, Dr. Schommer et al. make the case that the splenial edema was the result of the seizure, not the cause. In reference to the image entitled "TIA from an air embolism," Dr. Coebergh and colleagues rationalize that the most probable etiology was a retrograde venous air embolism. The authors agree with their judgment. Dr. Stroet et al. point out that the unexpectedly high incidence of therapy-related acute myeloid leukemia (TRAL) in the study by Martinelli et al. may be due to differences in treatment protocols in Italy vs Germany. The authors agree that there is variability in the incidence of TRAL, across centers and studies, and suggest that in this case it may be due to a larger sample size and longer follow-up time than is typical.

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### TEACHING NEUROIMAGES: REVERSIBLE SPLENIAL CYTOTOXIC EDEMA IN ACUTE MOUNTAIN SICKNESS

**Kai Schommer, Peter Bärtsch, Heidelberg; Michael Knauth, Kai Kallenberg, Goettingen, Germany:** Drs. Bin and Lee reported a reversible cytotoxic edema in the splenium of the corpus callosum (SCC) in a healthy woman who had a seizure 1 day after a 6-day sojourn (4,000 m) in Tibet.<sup>1</sup> She also experienced mild symptoms of acute mountain sickness (AMS).

The authors suggested that the seizure was a manifestation of AMS since the same location of the cerebral edema had been reported in AMS.<sup>2</sup> This conclusion conflicts with previous reports. Seizure is not a symptom of AMS and may occur very rarely in combination with high-altitude cerebral edema.<sup>3</sup> In addition, AMS disappears rapidly with descent and cerebral MRI in AMS showed no visible edema and only a nonsignificant decrease of ADC in the SCC.<sup>2</sup>

Finally, a "reversible splenial lesion syndrome" is a distinct radiologic syndrome associated with

several disorders.<sup>4</sup> In epilepsy, a reversible diffusion restriction in the SCC has been described.<sup>5</sup> The presented cytotoxic edema in the SCC is probably not related to AMS, but to the seizure itself, and we propose renaming the case report "Reversible splenial cytotoxic edema following epileptic seizure."

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1. Bin CH, Lee SJ. Reversible splenial cytotoxic edema in acute mountain sickness. *Neurology* 2011;77:e94.
2. Kallenberg K, Bailey DM, Christ S, et al. Magnetic resonance imaging evidence of cytotoxic cerebral edema in acute mountain sickness. *J Cereb Blood Flow Metab* 2007;27:1064–1071.
3. Wilson MH, Newman S, Imray CH. The cerebral effects of ascent to high altitudes. *Lancet Neurol* 2009;8:175–191.
4. Garcia-Monco JC, Martinez A, Brochado AP, Saralegui I, Cabrera A, Beldarrain MG. Isolated and reversible lesions of the corpus callosum: a distinct entity. *J Neuroimaging* 2010;20:1–2.
5. Gallucci M, Limbucci N, Paonessa A, Caranci F. Reversible focal splenial lesions. *Neuroradiology* 2007;49:541–544.

### TEACHING NEUROIMAGES: TIA FROM AN AIR EMBOLISM

**Jan A. Coebergh, the Hague; Gert J. Lammers, Mark C. Kruit, Leiden, the Netherlands:** The CT scan in this Teaching NeuroImage<sup>1</sup> proves the presence of air in the cavernous sinus. The most plausible explanation for this is a retrograde venous air embolism from the port-a-catheter with the patient in a vertical position. Retrograde venous cerebral embolism may lead to focal or generalized venous congestion, venous brain infarction, or even death. It is not credible that paradoxical arterial air emboli would have coalesced in the cavernous sinus after passing through brain capillaries.

Whether the acute clinical picture in this case can be explained by retrograde venous cerebral air embolism remains unclear. Theoretically, in this patient both paradoxical (antegrade) arterial air and (retrograde) venous air embolism may have occurred. If this were the case, the CT image only illustrates the