

A rare case: cerebral air embolism causing stroke after lung cancer ablation

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A 75-year-old male patient was consulted because of a sudden onset of decreased consciousness immediately after radiofrequency ablation (RFA) of lung cancer. Non-contrast axial computed tomography (CT) showed air densities along the vascular trace in the frontoparietal sulci of both cerebral hemispheres, more prominent on the right (**Figure 1A**, white arrows). Minimum intensity projection (MinIP) reformation from CT showed air images probably of arterial origin more clearly (**Figure 1B**, white arrowheads). Diffusion-weighted imaging showed restricted diffusion in cortical and subcortical areas and centrum semiovale in both cerebral hemispheres, more markedly on the right, consistent with watershed infarction (**Figure 1C, D**). The patient was diagnosed as acute watershed infarction secondary to cerebral arterial air embolism. Treatment was started immediately but unfortunately the patient died.

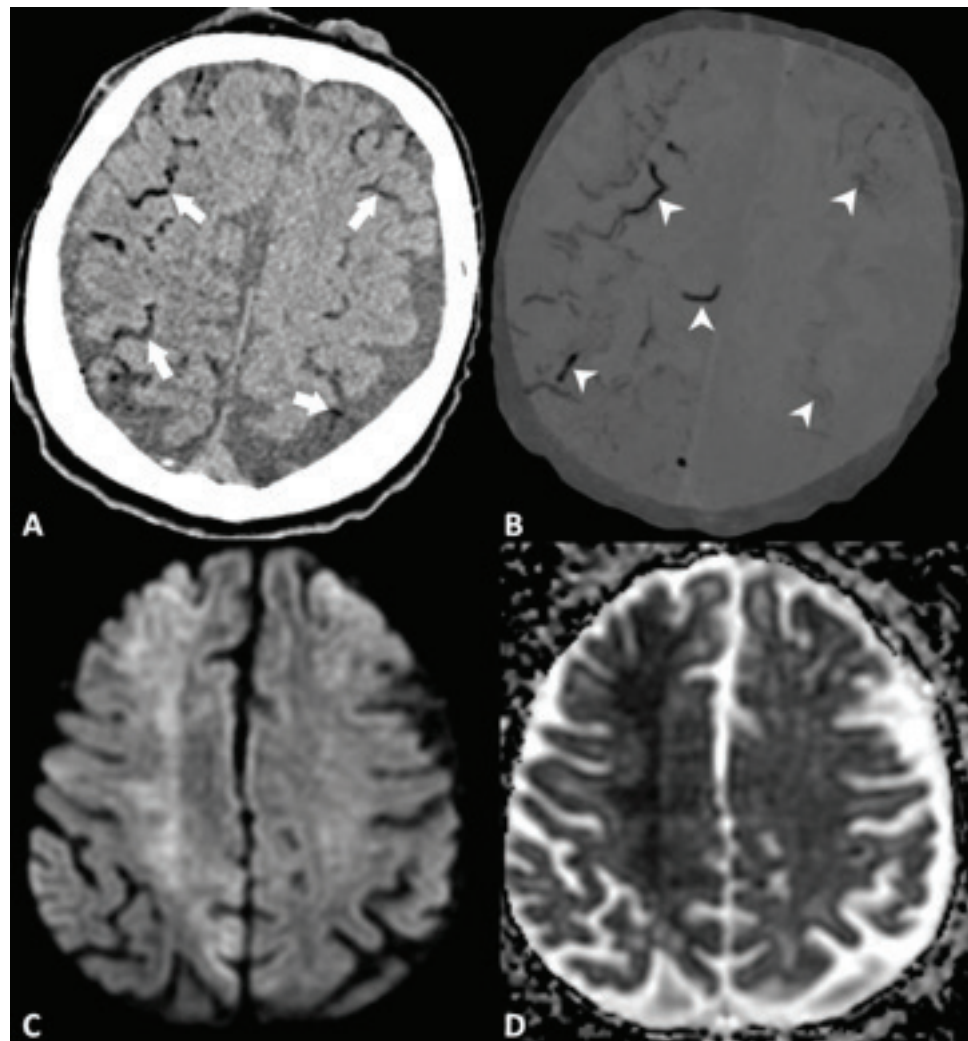


Figure 1. Imaging findings of a 75-year-old male patient with sudden onset of decreased consciousness. A. Non-contrast CT scan showed air densities along the vascular trace in the frontoparietal sulci of both cerebral hemispheres (white arrows). B. Minimum intensity projection reformation from CT showed air images probably of arterial origin more clearly (white arrowheads). C and D. Diffusion-weighted imaging showed restricted diffusion in bilateral cerebral hemispheres consistent with watershed infarction.

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Systemic air embolism is a rare but potentially fatal complication in lung cancer ablation (Hiraki et al, 2013). Therefore, physicians should suspect serious complications such as cerebral air embolism in patients whose deterioration of general condition is secondary to the RFA.

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Reference

Hiraki T, Gobara H, Fujiwara H et al. Lung cancer ablation: complications. *Semin Intervent Radiol.* 2013;30(2):169–175. <https://doi.org/10.1055/s-0033-1342958>