

**IMAGE FOCUS**

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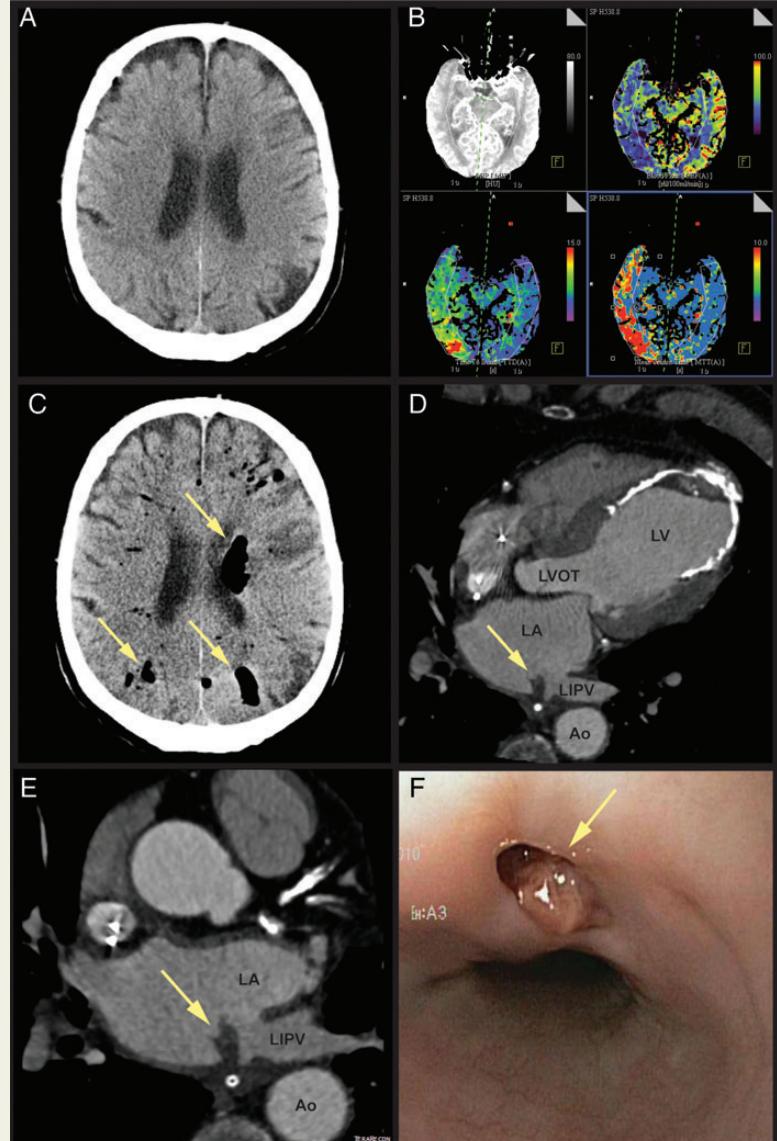
**Atrioesophageal fistula and pneumocephalus after pulmonary vein isolation**

Brent D. Wilson\* and Jack H. Morshedzadeh

Division of Cardiovascular Medicine, University of Utah, 30 North 1900 East, Room 4A100, Salt Lake City, UT 84132, USA

\* Corresponding author. Tel: +1 801 585 2341; Fax: +1 801 587 5874, E-mail: brent.wilson@hsc.utah.edu

A 71-year-old male was transferred to our hospital for sudden onset of left-sided hemiplegia and convulsive seizure. The patient had undergone pulmonary vein antrum isolation 2 months prior at an outside facility for treatment of atrial fibrillation. CT scan of the brain demonstrated right temporal lobe oedema and sulci effacement concerning for ischaemia (Panel A). CT brain perfusion demonstrated findings concerning for right temporal lobe ischaemia (Panel B). Blood cultures were positive for *Streptococcus salivarius*, and the patient was treated with IV antibiotics. On hospital day 6, the patient developed melenaic stools with an associated drop in haemoglobin. Because of worsening mental status, a repeat brain CT was obtained and demonstrated multifocal pneumocephalus within the dural venous sinuses, subarachnoid space, and cerebral parenchyma (Panel C). Gated cardiac CT demonstrated a large thrombus adherent to the posterior wall of the left atrium, near the ostium of the left inferior pulmonary vein (Panels D and E—an oropharyngeal catheter identifies the location of the oesophagus). Presence of atrioesophageal fistula was confirmed by esophagogastroduodenoscopy (Panel F). Progressive neurological decline from pneumocephalus developed, and the patient's family decided to withdraw care. Catheter radiofrequency ablation of atrial fibrillation is an increasingly common procedure, and atrioesophageal fistula is a rare and often fatal complication. High clinical suspicion, rapid diagnosis, and surgical therapy may prevent death. Advanced cardiac imaging with cardiac CT or MRI may play a role in the early, non-invasive detection of this serious complication.



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