

Left atrial vegetation after pulmonary vein isolation

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DESCRIPTION

A 67-year-old man presented with acute left hemiparesis 6 weeks after pulmonary vein isolation (PVI) for atrial fibrillation. His medical history was notable for hypertension and a metallic aortic valve which was implanted 23 years previously for bicuspid aortic stenosis. He was warfarinised for his metallic valve and his warfarin had been suspended for 5 days prior to ablation.

Clinical examination demonstrated left upper and lower limb weakness. CT brain suggested right middle cerebral artery branch occlusion. His international normalised ratio was high at 4.6 ruling out thrombolysis. The hemiparesis resolved within hours, and he was admitted for observation. He deteriorated the next day with bilateral weakness of left lower and right upper limbs. Following seizure activity, the patient dropped his Glasgow Coma Scale and required intubation. A repeat CT showed a small area of left frontal lobe bleed, suggestive of haemorrhagic transformation of embolus, deemed for conservative management following neurosurgical review. The patient was febrile and blood cultures grew *Streptococcus mitis* and *Streptococcus parasanguinis*. The warfarin was initially reversed and his cerebral haemorrhage appeared stable across serial imaging. As such anticoagulation was reinstated with a therapeutic unfractionated heparin infusion in view of his metallic aortic valve.

A transoesophageal echocardiogram (TOE) was performed, demonstrating a functioning prosthetic aortic valve and moderate mitral regurgitation. There was no vegetation or abscess identified. A clinical diagnosis of infective endocarditis (IE) with septic cerebral emboli was made despite the absence of echocardiographic evidence. He developed complete heart block the next day, requiring placement of a temporary pacing wire. This was replaced with a semipermanent externalised ventricular demand (VVI) pacemaker with active fixation



Figure 2 Gated cardiac CT confirming the presence of the vegetation in proximity to the oesophagus. It did not find any evidence of an atrio-oesophageal fistula (black arrow).

to permit long-term antibiotics in the context of sepsis, prior to committing to a permanent device.

Two weeks later, the patient became clinically unstable, required increasing inotropic support. Given ongoing concern regarding potential IE, repeat TOE was performed which demonstrated a large vegetation arising from the posterior left atrial wall (figure 1). Echocardiographic appearances were otherwise similar, with no evidence of valvular abscess or vegetation. Gated cardiac CT confirmed the presence of the vegetation in proximity to the oesophagus but did not find any evidence of an atrio-oesophageal fistula (figure 2). In view of the persistently poor neurological progress, a multidisciplinary team reached a consensus decision for conservative management of IE, with ongoing antibiotics, tracheostomy wean and neurological rehabilitation.

Septic vegetation after PVI has been reported previously.¹ Almost half of patients undergoing PVI are found to have some form of oesophageal injury or inflammation after procedure.² The resultant endothelial damage to the atrial wall may represent a potential substrate for infection. Atrio-oesophageal fistula is a rare complication of PVI

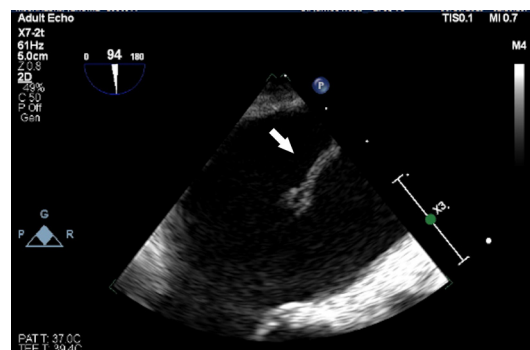


Figure 1 Transoesophageal echocardiogram demonstrating a large vegetation arising from the posterior left atrial wall (white arrow).

Learning points

- ▶ Septic vegetation is a rare but significant complication of pulmonary vein isolation.
- ▶ It is hypothesised that the damaged atrial endothelium may serve as a potential nidus for infection.
- ▶ Atrio-oesophageal fistula is a rare complication of pulmonary vein isolation and must be excluded prior to oesophagogastroduodenoscopy as this may result in insufflation and embolisation of air.



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and must be excluded prior to oesophagogastroduodenoscopy as this may result in insufflation and embolisation of air.³

The patient was ultimately discharged to hospice care where he subsequently died due to complications of his illness.

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