We report the case of a 31-year-old man with paroxysmal atrial fibrillation treated with pulmonary vein isolation (PVI) with cryo-balloon. Early after discharge he presented a transient mild haemoptysis and fever. Four weeks later he was re-admitted for recurring fever, headache, and absence seizures. Brain-CT scan showed multiple bilateral hemispheric emboli (Panel A). A transoesophageal echocardiography did not show valvular vegetations or intracardiac thrombosis. He then required intubation and mechanical ventilation due to rapidly progressive loss of consciousness. A 12-lead electrocardiogram showed persistent ST-segment elevation in inferior leads and subsequent coronary angiogram showed the absence of coronary artery disease, but a markedly slow flow in the right coronary artery. Laboratory tests showed progressive kidney and liver failure as well as intravascular disseminated coagulopathy. A screening chest-abdominal-pelvic CT revealed multiple liver, spleen, and kidney emboli (Panels B and C, arrows). A careful exam of the thoracic images showed a very low density area in the left atrium near the ostium of the left inferior pulmonary vein (LIPV), probably due to an atrioesophageal fistula (Panel D, arrow).

Cardiac surgery confirmed a laceration in the ostium of the LIPV (Panel E) which was repaired with a pericardial patch. Despite of this, the patient’s clinical condition worsened presenting incontrollable intracranial bleeding and refractory septic shock leading to death 24 h after surgery.

To our knowledge, this is the second reported case of atrioesophageal fistula secondary to PVI with cryo-balloon. Interestingly, in both cases the involved vessel was the LIPV.

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