A 64-year-old gentleman was admitted for primary percutaneous coronary intervention (PCI) after he experienced chest pain while drinking alcohol in a pub. The electrocardiograms demonstrated atrial fibrillation (AF) with a rapid ventricular response rate and transient ST-segment elevation with loss of R waves in the anterior leads (Figure 1). Coronary angiography revealed a thrombotic occlusion of the distal segment of the left anterior descending artery (Figure 2). The proximal left anterior descending, circumflex and right coronary arteries were angiographically free from significant atherosclerotic changes. Angioplasty was not performed due to the suspicion of an embolic phenomenon rather than coronary atherothrombosis and the distal location of the occlusion.

A transoesophageal echocardiogram (TOE) performed the next day confirmed the presence of a soft, mobile thrombus in the left atrial appendage (LAA) (Figure 3). Sluggish flow as evidenced by spontaneous echo contrast with its characteristic swirling and smoke-like appearance was also seen in the LAA. Myocardial necrosis was confirmed by increased levels of high-sensitivity troponin. The patient was anticoagulated and prescribed beta-blockers and other secondary prevention measures including advice to limit alcohol intake. The patient
was discharged with a plan for TOE-guided electrical cardioversion.

The LAA is often a site for thrombogenesis in AF given its shape, trabeculations and relative stasis of blood flow within it.\(^1\) It is thought that the LAA functions physiologically as a decompression chamber during ventricular systole and periods of increased left atrial pressure.\(^1\) It is poorly visualized on trans-thoracic echocardiography and TOE is the chosen modality of imaging.

Although AF is commonly seen in association with myocardial infarction, thromboembolism secondary to AF resulting in coronary occlusion is uncommon\(^2\). With the explosion of primary PCI in the UK, this phenomenon may be encountered more often. Interventional cardiologists must remain aware of this entity as deploying stents may subject the patient to procedural risk and antiplatelet agents inappropriately. Management in these cases must be aimed at secondary prevention, anticoagulation and restoration and maintenance of sinus rhythm.

Photographs and text from: A. Natarajan, W. Taggu, P. Phen and P.A. Kelly, Department of Cardiology, Essex Cardiothoracic Centre, Basildon and Thurrock University Hospital NHS FT, Nethermayne, Basildon, Essex, SS16 5NP, UK.

email: arunnatarajann@gmail.com

Conflict of interest: None declared.

References
