A rare cause of cardiogenic shock

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A 49-year-old woman without medical history was admitted following out-of-hospital cardiac arrest. She had complained of chest pain and EKG demonstrated sinus rhythm with ST-elevation in lead AVR and diffuse ST-depression. She then developed ventricular fibrillation, and received CPR and urgent cardiac catheterization. In the laboratory, she was in cardiogenic shock for which inotropes and IABP support were started. Angiography demonstrated normal coronary arteries. Left ventricular end-diastolic pressure was 16 mmHg and there was no gradient between LV and aorta. Left ventricular angiography demonstrated a poor left ventricular function, and aortography was normal. Echocardiography was not informative (TTE: poor windows, TEE impossible due to traumatic tongue swelling).

She died 7 h after admission because of refractory shock.

Autopsy demonstrated a 2 cm large papillary tumour located on the arterial side of the aortic valve, attached by a pedicle stuck to the left- to non-coronary cusp commissure (Panel A, left main ostium shown at the calliper’s right lower angle).

We found no coronary embolic material. Light microscopy of the tumour showed multiple papillary fronds, consisting of a central core of dense and surrounded by a layer of loose connective tissue and covered by endothelial cells, confirming papillary fibro-elastoma (Panel B, × 6.25, H&E). Review of the LV angiogram demonstrated an oscillating structure in the aortic root (Panels C and D, Supplementary material online, Movie, RAO view).

Cardiac papillary fibro-elastomas are usually an incidental finding, but may present with thrombo-embolism or, in this case, mechanical obstruction of a (left main) coronary ostium. Timely recognition might prevent poor outcome.

EKG, electrocardiogram; CPR, cardiopulmonary resuscitation; IABP, intra-aortic balloon pump; LVEDP, left ventricular end-diastolic pressure; LV, left ventricle; TTE, transthoracic echocardiography; TEE, transoesophageal echocardiography; H&E: haematoxylin & eosin (stain).

Supplementary Material is available at European Heart Journal online.