J Anesth (2014) 28:645
DOI 10.1007/s00540-013-1760-z

LETTER TO THE EDITOR

Intracardiac mass of the LAA during CPB for MVR

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Received: 21 October 2013 / Accepted: 23 November 2013 / Published online: 10 December 2013

Keywords Intracardiac mass · Left atrial appendage · Cardiopulmonary bypass

To the Editor:

Intraoperative transesophageal echocardiography (TEE) is essential for thromboembolic risk assessment, for distinguishing between embolic masses and artifacts. We report a fresh fibrin clot formed in fully heparinized blood that required repair in secondary cardiopulmonary bypass (CPB). A 33-year-old woman presented for her third mitral valve replacement with hemolytic anemia (hemoglobin 7.8 g/dl; hematocrit 23.9 %; lactate dehydrogenase 996 IU/l). Pre-CPB TEE revealed a moderate eccentric jet directed anteriorly and toward the left atrial appendage (LAA), which was classified as a rapid-acceleration jet on the basis of its hydrodynamic properties [1], and no intracardiac mass. LAA flow velocity was 18.4 cm/s. The initial heparin dose (10,500 U), which was estimated by use of Hepcon Heparin Management System (HMS) Plus (Medtronic, Minneapolis, MN, USA), resulted in an activated clotting time of 461 s. Surgical removal of the Hancock valve revealed pannus formation, degeneration of a leaflet resulting in a coaptation defect, and a commissural region tear leading to the jet associated with hemolysis (Fig. 1, supplementary material). TEE during CPB weaning revealed an echodense mass attached to the LAA, which moved oscillatory separate from the atrial wall (Fig. 2, supplementary material). A 7 × 5-mm filose tissue-like fragment (Fig. 3, supplementary material) consisted of organized fibrin, according to a pathological report. On the basis of this report, echo findings of the mass, and its sudden appearance during CPB weaning, the mass was identified as a fresh fibrin clot formed in fully heparinized blood. Multiple interacting prothrombotic factors were ruled out, including acquired antithrombin deficiency, a long pump time, post-protamine status, biological glue, and incomplete surgical LAA ligation. Therefore, previous mitral valve dysfunction and previous exposure of the left atrium might have contributed to stagnant blood flow within the LAA (LAA contraction velocity $\leq$20 cm/s) [2] and possible thrombus formation. The CPB time was 156 min and the aortic cross-clamp time was 114 min. The patient was removed from CPB without neurological events.

Conflict of interest There is no conflict of interest regarding this study.

References

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Electronic supplementary material The online version of this article (doi:10.1007/s00540-013-1760-z) contains supplementary material, which is available to authorized users.

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