Images in cardio-thoracic surgery

Surgical repair of pulmonary artery dissection

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A 72-year-old female, former smoker, with a significant history of oxygen-dependent chronic obstructive pulmonary disease (COPD) and pulmonary hypertension (estimated systolic pulmonary artery pressure of 65 mm Hg) presented with unremitting chest pain. Computed tomography, trans-oesophageal echocardiogram and epiarterial ultrasound diagnosed pulmonary artery dissection (Fig. 1(a)–(d)), which was confirmed by intra-operative findings (Fig. 2(a) and (b)).

Fig. 1. (a) Contrast-enhanced axial computed tomography image at the level of the PA bifurcation demonstrating the dissection flap within the main PA (arrow). (b) Three-dimensional reconstruction of the computed tomography images demonstrating the dissection flap within the main PA (arrow). (c) Intra-operative trans-oesophageal echocardiography showing the main PA with a 5.18 cm diameter and a dissection flap (arrow). (d) Intra-operative epiarterial ultrasound of the main PA showing the dissection flap (arrow).

Fig. 2. (a) Intra-operative photograph showing the aneurysmal main PA with the typical bluish discoloration of a dissection (arrow). (b) Intra-operative photograph of the open pulmonary artery demonstrating the dissection flap extending up to the bifurcation and into the right pulmonary artery. The forceps are holding the free edge of the dissection flap. MPA — main pulmonary artery, RPA — right pulmonary artery, LPA — left pulmonary artery.