

BALLOON PULMONARY ANGIOPLASTY IN A PATIENT WITH CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION

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We report the first French case of balloon pulmonary angioplasty (BPA) in a 78 year-old patient with chronic thromboembolic pulmonary hypertension (CTEPH). The patient had pulmonary embolism in 2004 with recurrence in 2011. At the end of 2012, he complained of persistent dyspnea and CTEPH was diagnosed on lung radionuclide perfusion scan, contrast chest computed tomography and right heart catheterization (RHC). He was in NYHA functional class 3, six-minute walk distance (6-MWD) was 470 meters. Mean pulmonary artery pressure (mPAP) was 45 mm Hg, cardiac index (CI) 1.8l / min / m² and pulmonary vascular resistance (PVR) 8 Wood units. He had used warfarin for 2 years and bitherapy with bosentan and tadalafil was started 1 year before BPA. Pulmonary angiography showed that the main lesions were located in segmental pulmonary arteries of the lower lobes. Webs and occlusion were identified in A6, A8, A9 and A10 pulmonary arterial branches on the right lung, and A8, A9 and A10 on the left lung. BPA was proposed. We maintained warfarin to achieve an INR of 2.0. The procedure was conducted under local anesthesia through the right femoral vein with a 6F guiding catheter. A 0.014 hydrophilic wire was inserted through target lesions (A). Heparin IV 50 unit/kg was injected for the procedure. BPA was performed with balloons diameter size from 2 to 8 mm. Three branches of the right lower lobe were treated. Other 3 in the left lower lobe were open 8 days after (B). After 2d procedure mPAP was 29 mmHg, CI 2.5 l / min / m², and PVR 4 Wood units. Patient developed moderate hemoptysis one hour after each procedure that resolved spontaneously. No sign of arterial rupture or wire injury were visualized. The patient was discharged home on the 5th day after BPA. After 3 months he was NYHA 2, 6-MWD was 478 meters, mPAP was 35 mmHg, CI 2.5L/min/m² and PVR 4 WU. BPA seems to be a feasible and efficient technique for the treatment of inoperable CTEPH patients. Multicenter studies are indicated to define indications, confirm efficacy and to establish long-term results.

Figure : Pulmonary angiography of A8 (left lung, lateral view) before (A) and after (B) BPA

