

# Giant Idiopathic Pulmonary Artery Aneurysms

Lang Liu<sup>1</sup>, Yu Wan<sup>1</sup>, and Ming-bin Deng<sup>1</sup>

<sup>1</sup>The Affiliated Hospital of Southwest Medical University

July 7, 2020

## Abstract

**Objective** To investigate the treatment of pulmonary artery aneurysms (PAA), and to improve the understanding of the disease and the level of diagnosis and treatment. **Methods** This article mainly reports a case of huge PAA patients treated with surgical treatment. **Results** After surgery, the prognosis of the case was good. **Conclusion** PAA has low incidence, which is rare in clinical with no clinical specific symptoms leading to difficulty in early detection. The appropriate surgical method should be considered to the patient condition, to prevent the tumor rupture and the death of patients.

Our hospital received a 51-year-old man because of chest discomfort. Clinical examination revealed systolic and diastolic heart murmurs without any systolic click in the inferior right sternal border. A Chest x-ray showed pulmonary artery dilation (Figure 1). Multidetector computed tomography showed a substantial pulmonary artery aneurysm (arrow) 52 mm in diameter (Figure 2A). Transthoracic echocardiography showed a massive aneurysm of the pulmonary artery by 2D echocardiography. There was nonsignificant mitral, tricuspid, and pulmonary valve regurgitation in either the 4-chamber view or the short-axis. Cardiac catheterization did not show any pressure gradient between the pulmonary artery and right ventricle or any pulmonary hypertension sign. The main pulmonary artery (arrow) thickened during the operation (Figure 2C). Aneurysmectomy of the main pulmonary trunk with a 26-mm synthetic graft performed (Figure 2D). The postoperative multidetector computed tomography showed pulmonary trunk (arrow) 29 mm in diameter (Figure 2B). The pathological examination did show blood vessel wall thickens, smooth muscle hyperplasia (Figure 3). The patient recovered well and was discharged 10 days after surgery.

Figure 1. Chest x-ray showing pulmonary artery aneurysm.

Figure 2. Three-dimensional reconstruction of chest computed tomography showing the main pulmonary artery and intra-operative image A) Before the operation (arrow) B) The fifth day after surgery (arrow) C, D) Intra-operative image showing the giant pulmonary aneurysm (arrow).

Figure 3. The pathological examination did show blood vessel wall thickens, smooth muscle hyperplasia.



