

## Atypically pulmonary arteriovenous malformations

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### Abstract

Pulmonary arteriovenous malformations (PAVM) are abnormal connections between the pulmonary arterial system and the pulmonary veins. PAVMs, which are twice as common in women, are generally seen in 4-6 decades. It is thought that congenital origin, previous thoracic traumas and thoracic surgery, liver cirrhosis, mitral stenosis and infections are among the etiological reasons in PAVM.

**Keywords:** arteriovenous malformation, PAVM, thoracic surgery, lobectomy, anatomic lung resection

### 1. Introduction

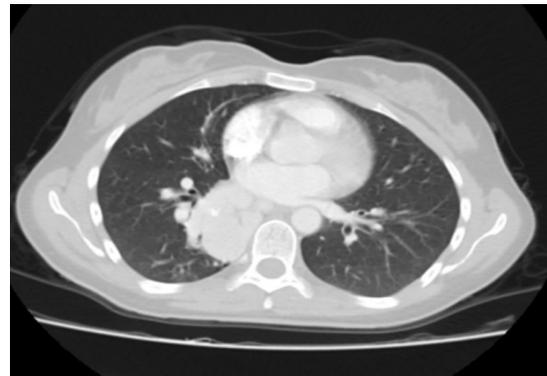
Pulmonary arteriovenous malformations (PAVM) are very rare abnormal connections between pulmonary arterial system and pulmonary veins (1). The etiologic causes of PAVM are congenital origin, previous thoracic trauma and thoracic surgery, liver cirrhosis, mitral stenosis and infections. PAVMs, which are frequently located in the lower lobes and close to the pleural surface, can be single or multiple and usually 1-5 cm in diameter. Pulmonary angiography is gold standard for definitive diagnosis (2).

### 2. Case Report

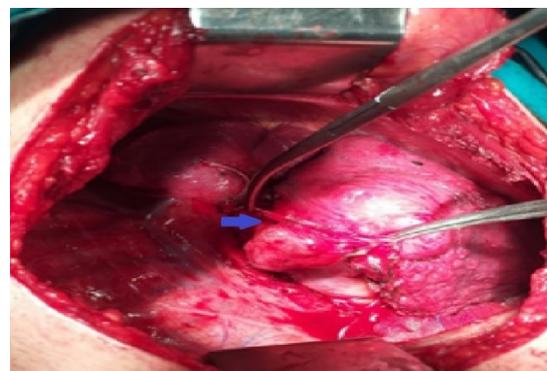
A 21-year-old woman was admitted to our clinic with complaint of cough. Physical examination and vital signs were normal. Chest X-ray revealed a round and well-circumscribed mass in the right lower zone. Thorax tomography showed a 42x38 mm lesion adjacent to the hilus in the right lower lobe, feeding from the lower lobe segment branches and consistent with an aneurysm draining into the right inferior pulmonary vein (Fig. 1).

The patient was operated under general anesthesia with a right posterolateral thoracotomy. During exploration, pulsatile and trilled aneurysms originating from the bronchial artery extending into the inferior pulmonary vein were detected. The bronchial artery was ligated from the proximal of the aneurysmatic dilatation and loss of trill was occurred (Fig. 2). The right lower lobectomy was performed, because the arteriovenous malformation was deeply located in the parenchyma. The patient was discharged on the 4th

postoperative day. She is still asymptomatic at the end of one year follow-up.



**Fig. 1.** Axial section of thorax tomography shows a lesion in the superior segment of the lower lobe of the right lung



**Fig. 2.** The PAVM located in the posterior of bronchus intermedius (Blue arrow)

### 3. Discussion

Follow-up of PAVMs without treatment is dangerous and has high morbidity/ mortality rates. Complications include size increase, hemoptysis, hemothorax and cerebral abscess. Embolization has high success rates in treatment (3). However, as in our case, when PAVM is large and located deep in the lung lobe, the cure will be provided by anatomic lung resection.

### Conflict of interest

None to declare.

### Acknowledgments

None to declare.

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