


A mediastinum-tumour-like pulmonary arteriovenous malformation with association to the pulmonary artery treated with surgical resection

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Key message

Despite embolization being now considered the preferred treatment for PAVM, surgical intervention may be considered if the malformation involves large vessels.

KEYWORDS

angiography, chest radiography, computer tomography, PAVM, VATS

CLINICAL IMAGE

A 40-year-old man was referred for evaluation of a right upper lung mass found during a health exam. Physical examination showed no apparent abnormal blood vessels in the

nose, finger, or mouth. Vital signs were within normal limits, except for oxygen saturation of 93% under room air. The chest radiography indicated the presence of a mass in the right upper lung, initially suggestive of an upper mediastinal tumour (Figure 1A). However, upon closer examination,

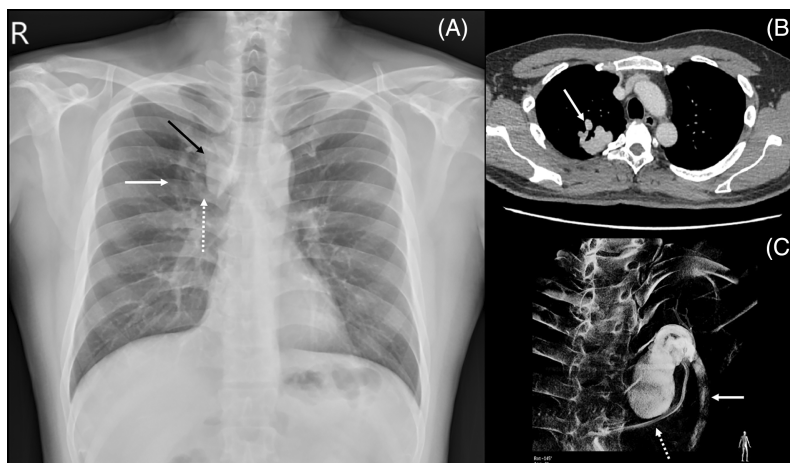


FIGURE 1 Poster-anterior view of chest radiography (A) showed a soft tissue density lesion next to the mediastinum (black arrow). A feeding vessel (white arrow) and a drainage vessel (dotted white arrow) can be appreciated by close examination of the soft tissue mass. The axial reconstruction of the contrasted computer tomography (B) revealed the lesion to be a solitary pulmonary arteriovenous malformation (PAVM), with the feeding vessel (white arrow) exceeding 9 millimetres. The selective angiography (C) confirms the feeding vessel (dotted white arrow) originated directly from the right pulmonary artery and drained to the left atrium (white arrow).

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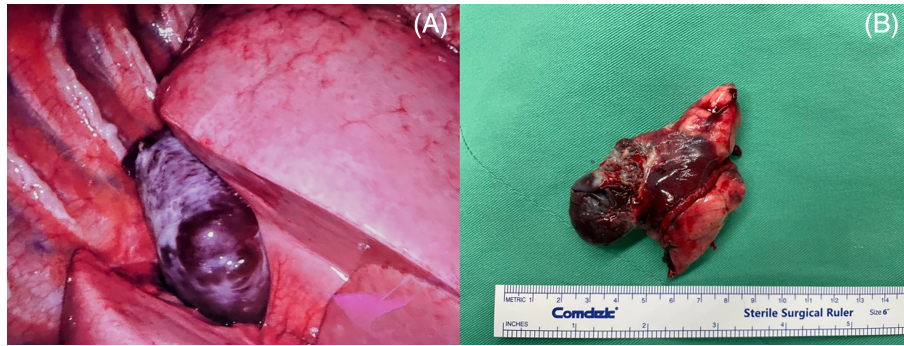


FIGURE 2 Intraoperative view of the PAVM (A) and the resected specimen (B). The length of the malformation is about 6 centimetres.

two vascular structures connected to the lung mass. Contrast-enhanced chest computed tomography showed a large pulmonary arteriovenous malformation (PAVM) (Figure 1B). Selective right pulmonary artery angiography revealed a feeding artery originating from the right superior pulmonary artery and draining into the left atrium (Figure 1C). The diameter of the feeding vessel exceeded 9 millimetres. Embolization was deemed unfeasible due to the substantial size of the feeding vessel and the high blood flow velocity observed during angiography. After the multidisciplinary panel discussion, the PAVM was removed by video-assisted thoracoscopy wedge resection (Figure 2). After the surgery, the patient's oxygen saturation had improved to 97% under room air.

Given the substantial risk of complications associated with radiographically visible PAVMs, intervention is imperative.¹ Despite embolization being now considered the preferred treatment for PAVM, surgical intervention may be considered if the malformation involves large vessels.

AUTHOR CONTRIBUTIONS

Yung-Chia Huang, and Chen-En Hsieh wrote a manuscript for this manuscript and conducted a literature review. Chen-En Hsieh contributed to the collection of case information and the revision of the manuscript. Shih-Wei Lee and Yei-San Hsieh reviewed the final manuscript. All authors have read and approved the final manuscript.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ETHICS STATEMENT

The authors declare that appropriate written informed consent was obtained for the publication of this manuscript and accompanying images.

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