Pulmonary varix associated with an anomalous unilateral single pulmonary vein mimicking pulmonary arterio-venous malformation

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A 52-year old female was admitted for treatment of lung cancer in the right upper lobe. A left-sided serpentine opacity was incidentally detected and a pulmonary arterio-venous malformation was suspected (Fig. 1). However, pulmonary varix associated with an anomalous unilateral single pulmonary vein was diagnosed by imaging studies (Fig. 2, Supplementary Video 1).

Supplementary material (Video 1) is available at EJCTS online.

Video 1: Left upper lobar selective pulmonary artery angiogram.

Conflict of interest: none declared.

Figure 1: Initial routine health work-up study using a chest radiograph and low-dose lung CT scan showed a 3-cm sized mass in the right upper lobe (black arrow) and an abnormal tortuous vascular dilatation in the left parahilar area (yellow arrow). The lesion in the right upper lobe was subsequently diagnosed as adenocarcinoma via fine-needle aspiration biopsy. For further clarification of the left parahilar lesion, pulmonary angiogram and contrast-enhanced CT scan were performed. CT: computed tomography.

Figure 2: The selective left pulmonary angiogram showed that the left upper lobe drained directly into the ipsilateral inferior pulmonary vein via a dilated tortuous intra-parenchymal collateral vein, representing a pulmonary varix (yellow arrow). The contrast-enhanced CT scan with 3D reconstruction showed absence of the left superior pulmonary vein (asterisk). After successful right upper lobectomy for the adenocarcinoma, she was discharged 5 days later without treatment for the left pulmonary varix. Pulmonary varix is a localized dilatation of a pulmonary vein without right-to-left shunting. Usually, no treatment is required for a pulmonary varix and regular follow-up is recommended for the detection of rare complications such as rupture into the surrounding structure and systemic emboli secondary to thrombosis in the varix. CT: computed tomography.