

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

### Medical Imaging Quiz – Case 21

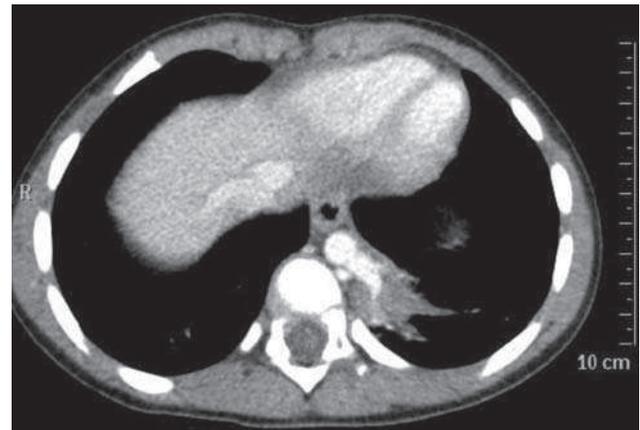
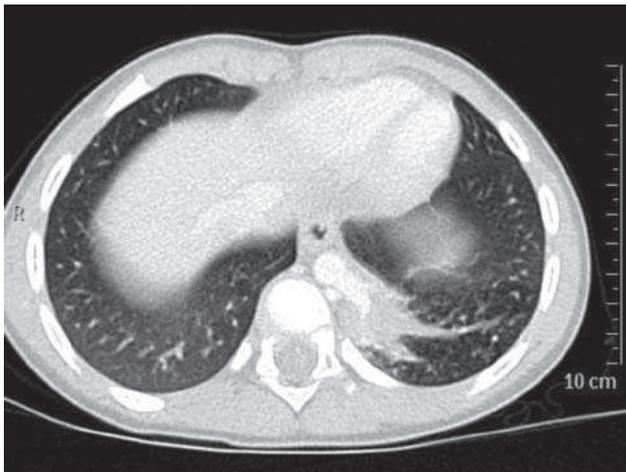
A four-year-old girl presented in our department for chest computed tomography (CT) scan, for further examination of a chronic opacity in left lower lobe, identified in consecutive previous x-rays. The girl was in good clinical condition and had normal laboratory tests. CT scan revealed a triangular lung parenchymal lesion with irregular enhancement, located at the posterior basal segment of left lower lobe (figures 1, 2). CT reconstruction images showed that the lesion had a feeding arterial branch originating from descending thoracic aorta (fig. 3), whereas its venous drainage ended to hemiazygos-azygos-AVC

venous system (fig. 4). The CT imaging features were suggestive of bronchopulmonary sequestration.

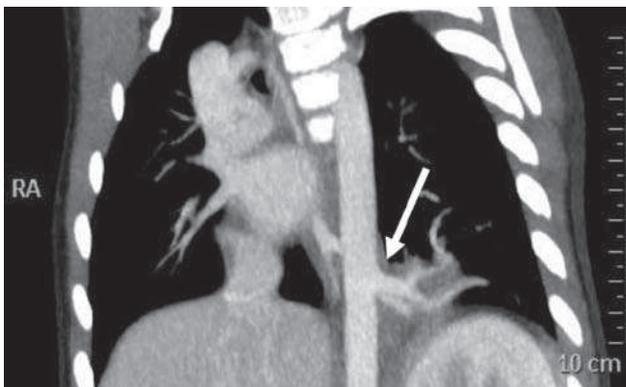
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**Figures 1, 2.** Axial CT images show a triangular lung parenchymal mass with irregular enhancement, located at the posterior basal segment of left lower lobe (lung and soft tissue window settings, respectively).



**Figure 3.** CT enhanced, reconstruction image that shows a feeding arterial branch of the BPS located in left lung base. The feeding vessel originates from descending thoracic aorta.



**Figure 4.** CT enhanced reconstruction image that shows the venous drainage of BPS via hemiazygos-azygos-AVC system.

## Comment

Bronchopulmonary sequestration (BPS) is a congenital area of dysplastic and nonfunctioning lung which is not connected with the bronchial tree or the pulmonary arteries. Other congenital anomalies may also coexist (heart, musculoskeletal system etc.). The appearance of BPS on prenatal ultrasound examination is similar to that of microcystic congenital cystic adenomatoid malformation. However, BPS has a systemic arterial blood supply; a color flow Doppler ultrasound showing a systemic supply to the mass could confirm the diagnosis. The feeding branch of the abnormal lung area typically arises from descending aorta. BPS is most commonly located in left lower lobe, followed by right lower lobe.<sup>1,2</sup>

BPS may be either intralobar (75%) which is enclosed by visceral pleura of affected pulmonary lobe but separated from the bronchial tree or extralobar (25%), which is actually an accessory lobe with its own pleural sheath.<sup>1,2</sup>

Intralobar BSP is acquired and commonly seen among adults (50% >20 years) and usually presents with recurrent acute lower lobe pneumonias (asymptomatic in about 15% of cases). It is a homogenous or inhomogenous soft tissue mass with irregular borders. Mucoïd impaction of dilated bronchus surrounded by hyperinflated lung is characteristic of such lesion, which may also include thin wall cysts, with air-fluid levels in case of infection.<sup>3,4</sup>

Extralobar BSP is congenital and most frequently seen among infants and small children. It is usually a single, well defined soft tissue triangular mass, most commonly located adjacent to the

posterior medial hemidiaphragm.<sup>3,4</sup>

Radiographic images play a fundamental role in establishing the diagnosis, and in providing the medical team with a vascular map for surgical planning.<sup>5</sup>

## References

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