Swyer-James Syndrome: X-ray and MDCT findings

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Citation

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Abstract

A case of Swyer-James syndrome is described with emphasis on multidetector CT (MDCT) findings and the diagnostic value of post-processing techniques.

CASE REPORT

A 53-year-old woman was referred to our radiology department for the onset of exertional dyspnea since 3 months. Chest X-rays showed reduced left lung volume with diminished vascular markings and hyperinflation of the right lung which was see herniating beyond the midline (Fig.1a) Contrast enhanced MDCT of the thorax was performed on a 16-slice scanner. Review of the axial images and of the multiplanar post-processed reconstructions (Fig. 1b,c) confirmed lung asymmetry and showed increased lucency of the left lung relative to the right. Left bronchial tree was patent with diffuse peripheral bronchiectasis. Left-sided pulmonary arteries were present but showed significantly decreased caliber (Fig. 1d). Radiologic findings were consistent with Swyer-James syndrome (SJS).

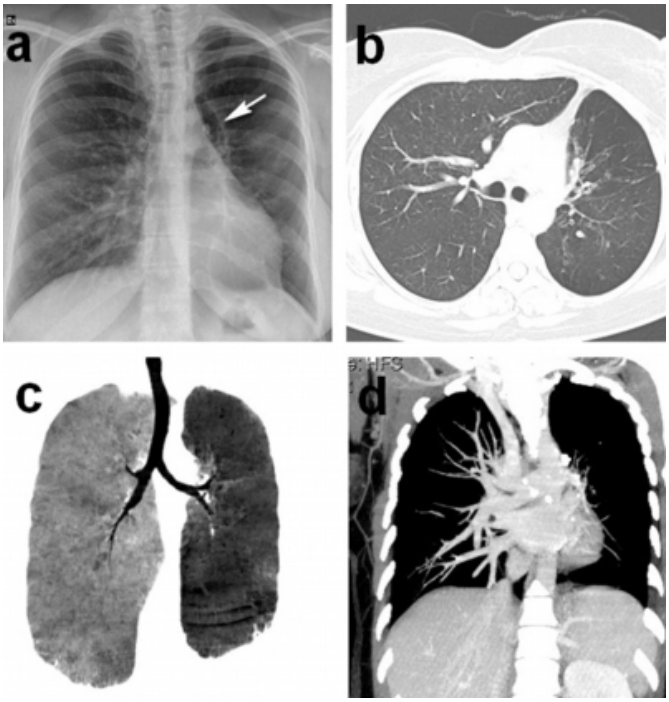
DISCUSSION

SJS is believed to represent the result of postinfectious bronchiolitis obliterans in infancy or early childhood that damages the terminal and respiratory bronchioles preventing the normal development of alveolar buds. [1] This lead to reduced lung volumes in adulthood and air-trapping. Patients may be asymptomatic or may experience cough, chronic pulmonary infections, decreased exercise tolerance, and hemoptysis.

Chest x-ray findings consist of a unilateral small lung with hyperlucency and air trapping. CT aids in the differential diagnosis between SJS, bronchial obstruction and congenital vascular anomalies like unilateral pulmonary artery agenesis or scimitar syndrome, showing preserved anatomy of tracheobronchial tree and pulmonary arteries. [23] Currently available post-processing tools improve MDCT diagnostic performances; in particular the combination of multiplanar reformatted images with maximum intensity projection (MIP) is most effective in vascular imaging while minimum intensity projection (minIP) reconstructions help to disclose differences in lung attenuation and depiction of bronchial structures. [4]

Figure 1

Figure 1 a. Chest X-rays showing reduced left lung volume and herniation of hyperinflated right lung (arrow) b, c. Axial CT scan and minIP coronal reconstruction reveal hyperlucency of left lung and airways patency. d. Left pulmonary arteries have strikingly decreased caliber on contrast enhanced MIP coronal reconstruction



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