

Congenital Lobar Emphysema

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History

1 month old female presenting to the emergency department with respiratory distress.

Diagnosis

Congenital Lobar Emphysema

Discussion

Congenital lobar emphysema is a progressive overexpansion of a pulmonary lobe that, by acting as a space-occupying mass, commonly presents with respiratory distress in the neonate. It is commonly thought to result from a check-valve mechanism at the bronchial level, allowing more air to enter the involved area on inspiration than leaves on expiration. Although the cause of congenital lobar emphysema is unknown, areas of malacia or stenosis of the bronchial cartilage are considered to be the most likely explanations. Congenital lobar emphysema is more common among males than females. It is not familial and occurs predominantly in Caucasians. Most patients become symptomatic during the neonatal period before 6 months of age.

Diagnosis is obtained by means of chest radiography and CT which shows segmental or lobar hyperinflation. The distribution of involvement is 42 % in the left upper lobe, 35 % in the right middle lobe, 21 % in the right upper lobe, and 1 % in each lower lobe. Initially, on plain films, congenital lobar emphysema may appear as a soft-tissue density related to retention of fetal lung fluid. As the fluid is absorbed, findings of air trapping, contralateral mediastinal shift, and lung compression develop. CT shows an expanded lobe with attenuated vascular structures.

Congenital lobar emphysema can be life threatening and lobectomy has been the treatment of choice, but recent evidence shows that some patients do well with conservative management.

Findings

CR-Marked hyperaeration of the left upper lobe with left greater than right pulmonary compression and contralateral mediastinal shift. Note that pulmonary markings while diminished in number are visible in the left upper lobe.

CT-The above radiographic findings are confirmed.

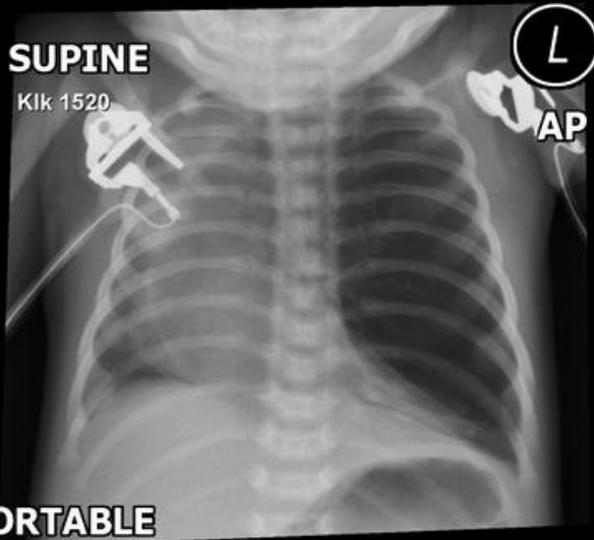
Reference

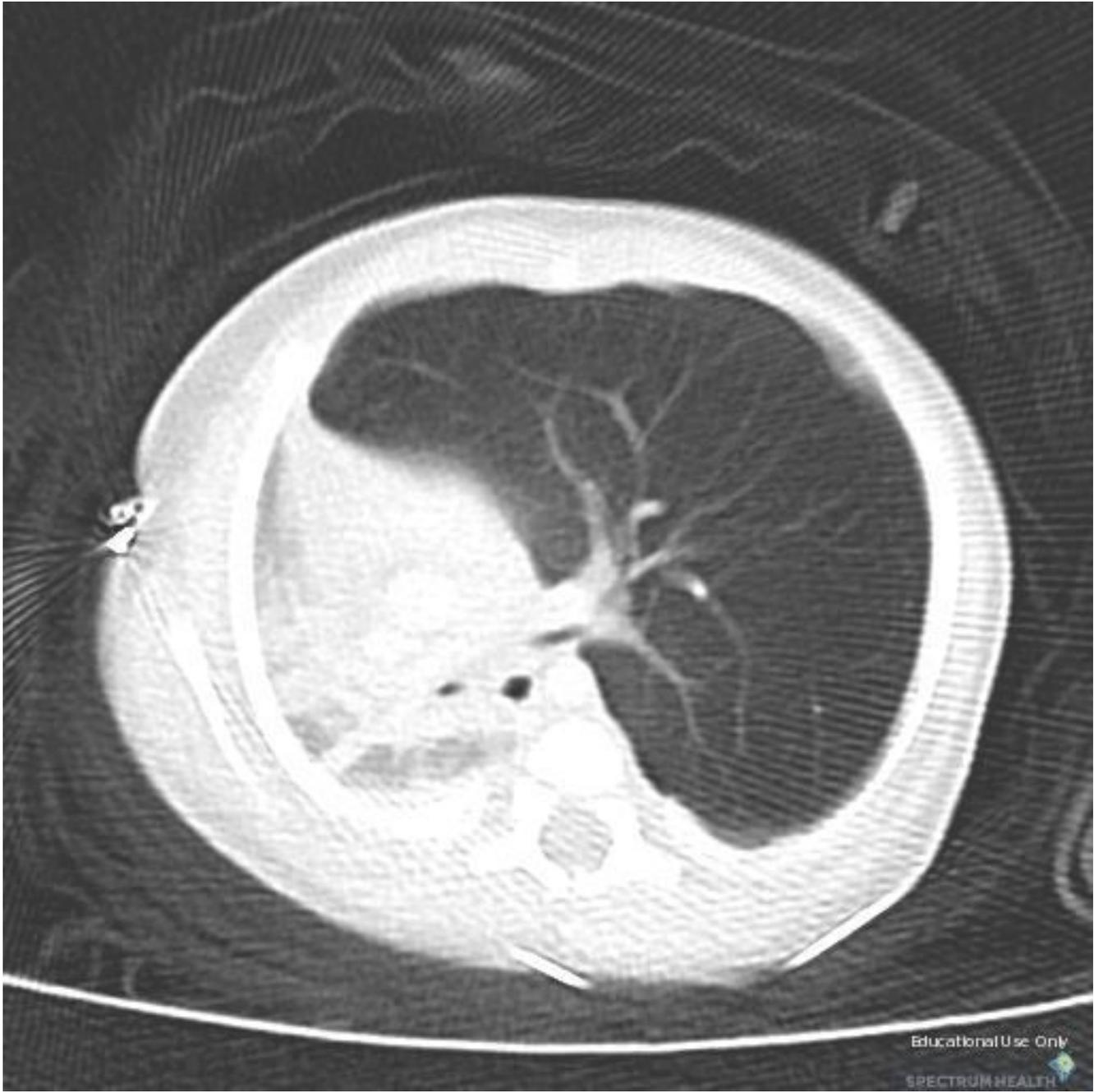
Daltro, P., Fricke, B.L., Kuroki, I., Domingues, R., Donnelly, L.F. CT of Congenital Lung Lesions in Pediatric Patients. American Journal Of Roentgenology, 2004; 183:1497-1506.

Zylak CJ, Eyler WR, Spizarny DL, Stone CH. Developmental lung anomalies in the adult: radiologic-pathologic correlation. RadioGraphics, 2002; 22:25 -43.

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