

Large Bronchogenic cyst Masquerading as Pericardial cyst and Causing Congenital lobar Emphysema

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ABSTRACT

Bronchogenic cysts are rare congenital lesions of the bronchial tree which are mostly asymptomatic. Rarely when the size is large it can compress on the adjacent structures in the mediastinum. We report a rare case of 10 month old baby presented with recurrent lower respiratory tract infection, was suspected to have a pericardial cyst on echocardiography. On further imaging it was confirmed to be a large bronchogenic cyst from the carina compressing on the left atrium and the left bronchus causing congenital lobar emphysema of the left lung. In view of compression of the adjacent structures patient was sent for surgery. Though congenital bronchogenic cysts involving pericardium and intracardiac tissues have been reported but mediastinal bronchogenic cysts compressing on left bronchus causing congenital lobar emphysema have rarely been reported.

Key words: Bronchogenic cyst, Congenital lobar emphysema.

CASE REPORT

10 month old baby presented to us for the evaluation of respiratory distress and recurrent lower respiratory tract infection since the age of 2 months. There was no history suggestive of congestive cardiac failure or cyanosis. Cardiovascular examination was within normal limits. Respiratory system examination revealed occasional rhonchi heard on left lung fields. Routine electrocardiogram and chest X-ray was non-contributory. 2D echocardiography with color doppler revealed a 21 * 21 mm homogenous spherical echo lucent area with well defined borders compressing the left atrium suggestive of pericardial cyst (Figure 1). Other cardiac structures and functions were normal by echocardiography. CT thorax

was done for the confirmation of the diagnosis showed an 22*20*22 mm sharply marginated, well defined, spherical, non enhancing, water-density cystic mass arising from the carina suggestive of mediastinal bronchogenic cyst (Figure 2, 3). The cyst was also seen to be compressing on the left bronchus upper lobar emphysema of the left lung (Figure 4).

As the baby was symptomatic with respiratory distress and lower respiratory tract infection, and in view of obstructive nature of the cyst, baby was sent for surgical excision of the cyst. Later patient was lost on follow-up as they were not willing for surgical correction in view of financial reasons.

DISCUSSION

Bronchogenic cysts are rare congenital lesions accounting for only 5-10% of paediatric mediastinal masses.¹ Bronchogenic cysts are formed as a result of abnormal budding of the bronchial tree during embryogenesis (between 4-6 weeks). They do not usually communicate

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DOI: 10.5530/jcdr.2015.2.9

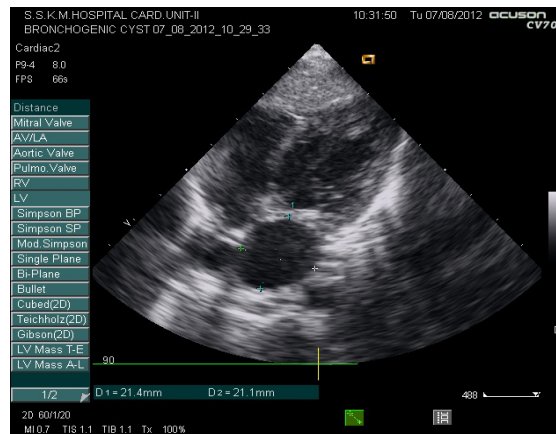


Figure 1: 2D echocardiography subcostal 4 chamber view showing a 21 * 21 mm homogenous spherical echo lucent area with well defined borders adjacent to the left atrium

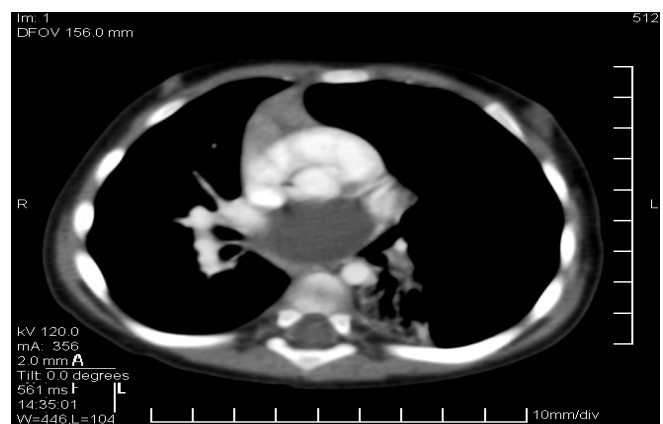
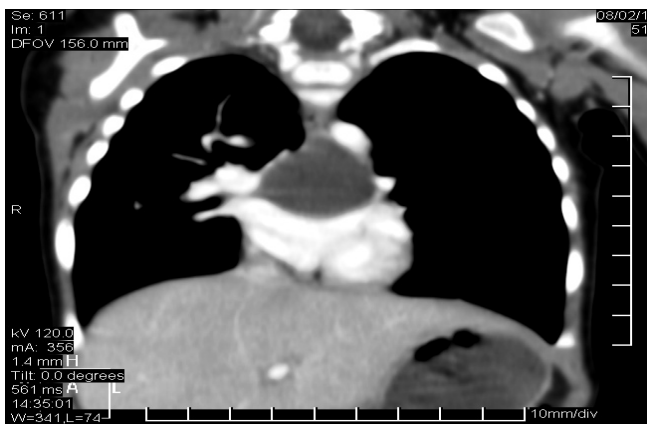


Figure 2 and 3: CT thorax with coronal and transverse planes, showing a 22*20*22 mm sharply margined, well defined, spherical, non enhancing, water-density cystic mass arising from the carina

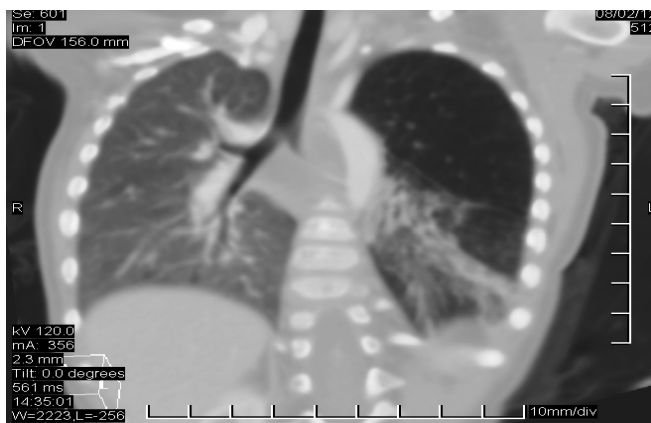


Figure 4: CT thorax showing the mass compressing the left bronchus causing left upper lobar emphysema

with the bronchial tree, and are therefore typically not air filled. These cysts most frequently occur along the tracheobronchial tree in the mediastinum or within the lung parenchyma. In many instances, bronchogenic cysts are asymptomatic and are found incidentally when the chest

is imaged. Rarely can they present with complications such as infection of the cyst, and pneumonia, superior vena cava syndrome, tracheal compression, pneumothorax, and pleurisy, carcinomatous or sarcomatous transformation. Tracheobronchial compression can lead pulmonary infections in children because of the relatively soft tracheobronchial tree,² which is the most like reason for the recurrent reparatory tract infection noted in our case . Congenital lobar emphysema are rare anomalies of lung development characterised by over inflation of pulmonary lobe due to air trapping by a check-valve mechanism caused by extrinsic bronchial compression. However, congenital lobar emphysema due to a bronchogenic cysts have been rarely reported.^{2,3} In our index reported case the bronchogenic cyst was seems to compress on the left atrium (Figure 1) and compress on the left bronchus causing left lobar emphysema (Figure 4). Though congenital bronchogenic cysts involving pericardium and intracardiac tissues have been reported,^{4,5} but mediastinal bronchogenic cysts compressing on left atrium have been reported in

very few cases.^{6,7}

CT thorax and MRI are the definitive diagnostic modality for the confirmation. The differential diagnosis include pericardial cyst, neurenteric cyst, thymic cyst. In our index case echocardiographically features were suggestive of pericardial cyst, which was later confirmed to be bronchogenic cyst on CT thorax. CT thorax features suggestive of bronchogenic cyst include sharply margined, non contrast enhancing mass with water or soft-tissue density. MRI features suggestive of bronchogenic cyst include bright on T2-weighted images

and dark on T1-weighted images. On T2-weighted images the brighter the cyst, it's more likely to be bronchogenic cyst. Treatment of the bronchogenic cysts is controversial. There are differences in the published series with respects to symptomatology and treatment of these cysts. Some studies have reported that most of the asymptomatic cysts are benign and can be followed up,⁸ whereas others suggest surgical excision even for asymptomatic cysts, to prevent complications.^{9,10} Our case was referred for surgical excision in view of significant symptoms, compression of left atrium and left bronchus causing lobar emphysema.

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