
TEACHING FILE

A 5 year old with cough, breathlessness and fever for 3 months

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Clinical problem: A 5 year old boy born of non consanguineous marriage presented with low grade fever, breathlessness and cough for 3 months. There is no history of contact with tuberculosis, cyanosis. On examination, he has respiratory rate of 40/min with intercostals and subcostal retractions without stridor and inspiration more prolonged as compared to expiration. There is no bulge or flattening of chest and chest movements are equal. He has subcutaneous crepitations in the neck and axillary region.

What is the diagnosis?

Expert's opinion: - This child has presented with fever, cough and breathlessness. Breathlessness could suggest a cardiac or a pulmonary pathology. Breathlessness in a cardiac problem would either be acute as in pulmonary edema or Congestive Cardiac Failure (CCF) or may lead to dyspnea on exertion which increases over time. This child has breathlessness going on for 3 months which has almost remained same. Thus cardiac cause seems unlikely. Among, respiratory causes that can cause breathlessness, it could be pneumonia, it could be involvement of bronchi (asthma) or it could be due to pleural pathology (pleural effusion). In this child, inspiration seems to be more of a problem rather than expiration. Hence involvement of bronchi seems unlikely. Also there is no decreased chest movement on one side or localized swelling ruling out pleural effusion. Thus, the problem seems to be in the lung parenchyma. Of the parenchymal lung lesions that can cause cough and breathlessness for 3 months, one should rule out interstitial lung disease, fibrosis and Chronic Obstructive pulmonary disease (COPD).

COPD leads to emphysematous chest and is associated with a long standing lung disease. In this child, symptoms are present only since 3 months. Hence COPD seems unlikely. Interstitial lung disease is a possibility. Since the child has subcutaneous emphysema, a non-compliant chest is present which is causing rupture and release of small amount of air. Hence associated fibrosis is also suspected. In this child, examination revealed fine crepitations and Chest X-Ray showed reticulonodular shadows suggestive of interstitial lung disease. CT chest showed multiple cystic lesions in the chest suggestive of Histiocytosis which was confirmed on lung biopsy.

E-published: October 2007