

Varicella Pneumonia

Published on 13.12.2007

DOI: 10.1594/EURORAD/CASE.4994

ISSN: 1563-4086

Section: Chest imaging

Case Type: Clinical Cases

Authors: Hughes DP, Lea S, Wahbi ZK

Patient: 17 years, female

Clinical History:

Shortness of breath and cough for 2 days.

Imaging Findings:

A 17 year old patient presented with a 2 day history of dyspnoea, cough and vesicular rash. Chest X-ray (fig.1) showed widespread patchy opacities. High resolution computed tomography of the lungs (fig. 2a, b, c, d) showed widespread ill defined nodular opacities with surrounding ground glass attenuation distributed randomly. There is smooth interlobular septal thickening in the upper zones. The combination of the rash and the HRCT appearances suggested a diagnosis of Varicella Pneumonia. Follow up high resolution computed tomography of the lungs (fig. 3a, b, c, d) showed resolution of the nodular air space shadowing and development of small calcified granulomas confirming the diagnosis of Varicella Pneumonia.

Discussion:

Varicella is a common contagious infection in childhood with increasing incidence in adults.^{1,2} Varicella pneumonia, although rare, is the most serious complication that affects adults. It has a reported incidence in healthy adults that is 25-fold greater than in children.³ Most cases of varicella-zoster virus pneumonia in adults occur in immunocompromised patients. The plain chest film differs slightly from that seen with other viral infections.⁴ The pneumonia causes multiple 5 to 10 mm ill-defined nodules that may be confluent and may come and go in different areas of the lung. The small, round consolidations usually resolve within a week after the disappearance of the skin lesions, but they can persist for months. In a few patients the lesions calcify and remain indefinitely as numerous, well-defined, randomly scattered, 2 – 3 mm, dense calcifications in otherwise normal lungs.⁵ HRCT can be helpful in the diagnosis of viral pneumonia.⁶ Findings on HRCT include numerous 1-10 mm well-defined and ill-defined nodules throughout both lungs. Other findings include nodules with surrounding ground-glass attenuation, patchy ground-glass attenuation and consolidation, and coalescence of nodules.⁷ Similar imaging findings can be seen in other viral pneumonias, such as cytomegalovirus, influenza virus or measles virus pneumonia and differential diagnosis remains challenging. Varicella pneumonia that results in respiratory failure or progresses to the institution of mechanical ventilation carries a significant morbidity and mortality despite intensive respiratory support and antiviral therapy. When used in addition to appropriate supportive care and early institution of antiviral therapy, corticosteroids appear to be of value in the treatment of previously well patients with life-threatening Varicella pneumonia.⁹

Differential Diagnosis List: Varicella Pneumonia

Final Diagnosis: Varicella Pneumonia

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