

Clinical Quiz

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Loculated pleural effusion

Clinical Presentation

A 36-year-old Indian male presented with history of fever, cough, and loss of weight (10 kg) for 2 months. His chest x-ray (right decubitus) is shown below (Figure 1).



Figure 1 -

Questions

1. What is your diagnosis?
2. Mention 3 causes of such a condition.

Clinical Quiz

Answers

1. Loculated right sided pleural effusion.
2. Hemothorax, pyothorax, chylothorax, or tuberculosis.

Discussion

Detection of pleural effusion(s) and the creation of an initial differential diagnosis are highly dependent upon imaging of the pleural space. Plain chest radiography and CT scanning are the primary modalities that are used for evaluation of all types of pleural disease, but ultrasound and magnetic resonance (MR) imaging also have a role in selected clinical circumstances. Pleural effusions can loculate as a result of adhesions. Loculation (or encapsulation) is most common when the underlying effusion is due to hemothorax, pyothorax, chylothorax, or tuberculosis pleuritis. A typical configuration along the chest wall, often described as a pleural or extra pleural sign, has the following features: the angles of interface between the pleural mass and the chest wall are obtuse, the surface of the mass is usually smooth, and the content is homogeneous.¹ Computed tomography detects small pleural effusions, namely, less than 10 mL and possibly as little as 2 mL of liquid in the pleural space. Other uses of CT scanning in the evaluation of pleural disease include differentiating lung abscess and empyema.^{2,3} Ultrasonography permits easy identification of free or loculated pleural effusions, and it facilitates differentiation of loculated effusions from solid masses. The intrinsic characteristics of an effusion and its accompanying adhesions can be identified. Thoracentesis of loculated pleural effusions is facilitated by ultrasound marking or guidance. However, CT is the method of choice for more complicated interventional procedures, such as empyema drainage. The MR imaging can display pleural effusions, pleural tumors, and chest wall invasion.

References

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3. Stark DD, Federle MP, Goodman PC, Podrasky AE, Webb WR. Differentiating lung abscess and empyema: radiography and computed tomography. *AJR Am J Roentgenol* 1983; 141: 163-167.