

In the name of God



Department of Internal Medicine

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## **An Encephalopathic Adolescent with Pulmonary Round Lesion.**

Heydari. A A \*, Taghavi M R \*.

\* Assistant professor, Department of Infectious Diseases, Imam Reza Hospital, Mashad, Iran.

Correspondence: Dr. Ali Akbar Heydari, Department of Infectious Diseases, Imam Reza Hospital, Mashad, Tel: +98 (511) 841-2351, Iran, E-mail: aghileheydari@yahoo.com

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Key Words: Encephalopathy, Round pneumonia.

### **Case Presentation:**

Septic encephalopathy (SE) is the most common cause of acute toxic-metabolic encephalopathy and its presence and severity correlate with increased mortality. We report a case of SE associated with round pneumonia.

Case presentation: A 16- year- old boy presented with fever, dyspnea and confusion for 24 hours. There was not any past problem except enuresis in childhood. On physical examination he was tachypneic, tachycardic, febrile and

confused. There was a neck stiffness without kerning's and brudzinski's signs. Otherwise his physical examination was unremarkable.

There was no productive cough, and no sputum for smear and culture. A complete blood count revealed leukocytosis with a left shift. Lumbar puncture revealed a normal cerebrospinal fluid without pleocytosis.

The radiographic finding was a round pulmonary mass in the left hilum (Figure 1).

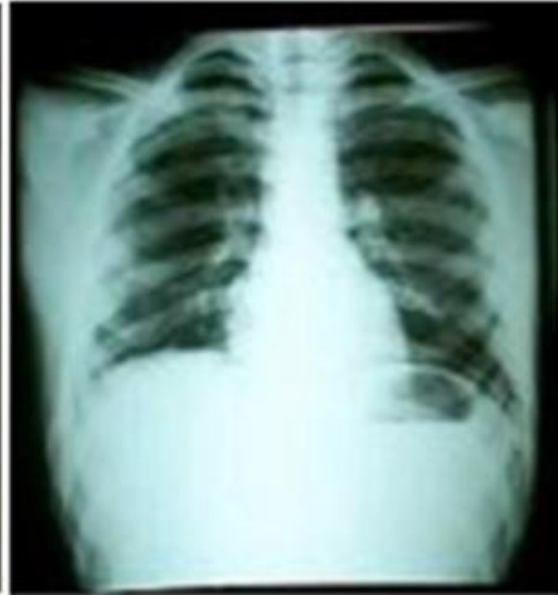


**Fig. 1**

Our patient presented with symptoms and physical findings that are relatively consistent with septic encephalopathy associated with pneumonia (sepsis, tachypnea, dyspnea and altered mental status).

#### **Case Discussion:**

Less than 1% of pneumonia presents as a pulmonary round lesion (1). Round pneumonia is often encountered in children rather than adults and is most often caused by streptococcus pneumoniae. Some other causative organisms include Klebsiella pneumoniae, Mycobacterium tuberculosis, and Haemophilus influenzae (2). True round pneumonia is a serendipitous finding in patients with acute pneumonia, as the focal infection spreads centripetally until it reaches the pleural surface (3). The patients generally present with



**Fig. 2**

There was a progressive well-being in the first 2 days of IV ceftriaxone, and after 8 days, the radiographic and clinical pictures were completely normal (Figure 2).

acute to sub-acute symptoms of community-acquired pneumonia. One should consider the diagnosis of round pneumonia in the patient who presents with a pulmonary mass, especially if he or she has respiratory tract infection symptoms, is a young nonsmoker and has no other findings to suggest malignancy. These features in the context of a recent normal chest radiograph are virtually pathognomonic for round pneumonia. Round pneumonia, a benign cause of coin lesions seen on chest radiography, can often be difficult to distinguish from

bronchogenic carcinoma. Although relatively uncommon in adults, this entity will probably be seen in most radiology practices and may lead to CT and biopsy. Because round pneumonia is easily treated with antibiotics, this diagnosis should be considered in all patients with a coin lesion, keeping in mind that bronchogenic carcinoma is much more frequent. A recent chest radiograph with normal findings or a history of cough and fever can aid in the diagnosis. A trial of antibiotics followed by a second chest radiograph in 2-3 weeks may be indicated in symptomatic or younger patients but should be considered in all patients with a solitary pulmonary nodule, because round pneumonia can occur in patients of any age and may be clinically silent. Any patient with a pulmonary nodule that does not decrease

in size or resolution after antibiotic treatment should be further assessed with bronchoscopy, transthoracic needle biopsy, or other diagnostic procedures.( 4) The treatment of adults with round pneumonia is similar to that of individuals with lobar pneumonia. Therapy with antibiotics, appropriate for the patient's unique historical features, should be effective against the common pathogens that are responsible for lobar pneumonia. (5) Therapy with antibiotics in these cases should be effective against the common pathogens causing lobar pneumonia but also against Q fever: old and new macrolides (erythromycin and clarithromycin) and new quinolones (levofloxacin) are curative and prevent chronic Q fever. (6).

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