

## Pneumatocele in Postpneumonic Empyema in Children: A Case Report

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### Dear Editor-in-Chief,

Pneumatocele is most often seen in children with bacterial pneumonia but also develops after blunt thoracic trauma, positive pressure ventilation, and caustic aspiration (1). These lesions frequently resolve spontaneously; and this is usually slow and not uncommonly may take months or longer after disappearance of the underlying pathology (2). We here describe a case of pulmonary pneumatocele in postpneumonic empyema in a child. A 4-year-old female was admitted with a 2-week history of cough and sputum production with fever. The chest X-ray objective pneumonia, so she was initially put under antibiotic as an outpatient. However, after 6 days we note the persistence of the fever a chest X-ray was made showing a left pulmonary empyema confirmed by a CT scan. So we decide a hospitalization with intravenous antibiotic treatment. After a favorable evolution in the one month control chest X-ray and CT scan objective a left basal pneumatocele (**Figure.1**), and biology showed leukocyte count at 10,740/mm<sup>3</sup> and C-reactive protein at 28 mg/dL. So antibiotherapy has been started. After 4 weeks of antibiotic administration, improvement was detected on clinical finding, laboratory test, and radiologic image. At the 2-month follow-up, chest radiography and chest CT indicated regression of the pneumatocele (**Figure.2**). Clinical and radiological progress was good. During follow-up, resolution of the pneumatocele lesion was observed after more than 5 months.

Pulmonary pneumatoceles occur as a complication of acute pneumonia, but are almost always transient and generally resolve spontaneously and completely, without sequelae (3). The diagnosis was usually made with a simple chest x-ray, however, CT establishes a definitive diagnosis of pneumatocele and it is necessary for a good surveillance (4). As in our case it was the CT which confirmed the diagnosis of pneumatocele and it was used in surveillance during the first three months. In the treatment, there are some reports regarding image-guided catheter drainage or surgical excision besides cases with spontaneous resolution (4). But in the literature it has not been clearly indicated which clinical or radiological signs are indication for treatment choice; and some authors reported a series of spontaneous resolution without sequelae (2, 4). In our patient antibiotic was used because of biology result and spontaneous evolution was noted after 5 months of follow-up. Generally pneumatocele need not an interventional treatment and an excellent prognosis can be given with only surveillance and antibiotic if it has indication.

**Key Words:** Children, Empyema Pneumatocele.

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**Fig.1:** Initial chest X-ray, left basal pneumatocele.



**Fig.2:** Regression of the pneumatocele at the 2 months chest ray control.

## REFERENCES

1. Tuggle, D. W. Acquired pulmonary and pleural disorders. *Pediatric Surgery*. Philadelphia, PA: WB Saunders Co; 2000.pp. 287-89.
2. Amitai I, Mogle P, Godfrey S, Aviad I. Pneumatocele in infants and children: report of 12 cases. *Clinical pediatrics*. 1983; 22(6): 420-22.
3. Ryou S H, Bae J W, Baek HJ, Lee DH, Lee SW, Choi GH, et al. Pulmonary Pneumatocele in a Pneumonia Patient Infected with Extended-Spectrum  $\beta$ -Lactamase Producing *Proteus mirabilis*. *Tuberculosis and respiratory diseases*. 2015; 78(4): 371-74.
4. İmamoğlu M, Çay A, Koşucu P, Özdemir O, Çobanoğlu Ü, Orhan F, et al. Pneumatocelles in postpneumonic empyema: an algorithmic approach. *Journal of pediatric surgery*. 2005; 40(7): 1111-17.