

**SPONTANEOUS PNEUMOTHORAX IN A TERM NEONATE: A CASE REPORT**

MOHAMMAD MOMEN GHARIBVAND\*

Department of Radiology, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran. Email: mohamad.momen2017@gmail.com

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**ABSTRACT**

Spontaneous pneumothorax does not occur frequently in the newborn. The prevalence of spontaneous neonatal pneumothorax is twice in male as in female neonates. It should be suspected in any neonate with respiratory distress. In this article, we present a 2.6 kg term male neonate who developed respiratory distress 14 h after birth. An urgent chest X-ray anteroposterior was ordered for evaluation. Chest X-ray revealed a left-sided pneumothorax along with mediastinal and tracheal shift to the opposite side which was suggestive of tension pneumothorax. If considerable distress persists, continuous drainage of the pneumothorax should be provided by means of an intercostal drainage and an underwater seal.

**Keywords:** Neonate, Pneumothorax, Spontaneous.

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**INTRODUCTION**

Spontaneous pneumothorax (SP) does not occur frequently in the newborn, SP is primary pneumothorax in neonates, and occurs in the lack of risk factors when birth [1]. The prevalence of spontaneous neonatal pneumothorax is twice in male as in female neonates [2]. It should be suspected in any neonate in respiratory distress after rule out serious cause like congenital heart disease [3]. The treatment of SP in term neonates uses of higher oxygen concentrations/nitrogen washout for rapid resolution and thoracentesis or uses chest tube [4,5].

**CASE REPORT**

A 2.6 kg term male neonate was born through an eventful normal vaginal delivery with normal Apgar scores, at 11 AM. As a routine, he was examined by pediatrician 1 h later and no problem was detected. About 14 h after birth, the nurse on duty reported that "the neonate seems to have tachypnea but his tone and reflexes are normal." Pediatrician examined the patient again; the neonate had a respiratory rate of 50/min, pulse rate 110/min, and SpO<sub>2</sub> 95% on oxygen hood and decrease in lung sound on the left hemithorax. An urgent chest X-ray anteroposterior was ordered which revealed a left-sided pneumothorax along with mediastinal and tracheal shift to the opposite side which was suggestive of tension pneumothorax (Fig. 1). Due to respiratory

failure and shock, chest tube was inserted and newborn was intubated and put on assisted ventilation with inotropic support. After 2 days, the patient was extubated and after 1 week discharged from hospital in good condition.

**DISCUSSION**

Pneumothorax may be life-threatening which is defined refers to the abnormal collection of gas in the pleural space between the lungs and the chest wall, but it is more frequent in older patients with advanced disease [6]. It may develop in term newborns without pulmonary pathology or positive pressure ventilation, and this is most probably due to high transpulmonary pressure generated with the onset of breathing [7].

This case described a term neonate male with SP; this can occur through a wide variety of mechanisms including traumatic disruption of the barriers between tissues and air, generation by infectious sources, or spontaneously through alveolar disruption [8]. Symptomatic SP is 0.05–1% in all live births. To its intensity was different type of treatment, if pneumothorax is <5–10%, the patient is hospitalized and observed. Clinical signs and symptoms improve with bed rest, oxygen therapy or simple thorax tube, and recurrence rates are between 50 and 100% [9]. However, its occurrence conditions have rarely been described; some study reported SP in newborn [10-25]. A study shows that a newborn presenting with bilateral pneumothorax whose diagnosis was cystic fibrosis with N1303K mutation on CFTR gene [26].

**CONCLUSION**

Although it does not happen very frequently when it does occur, it can have fatal consequences. Knowing the risk factors and looking for those in newborns at risk will ensure that they receive appropriate care for their conditions. Neonates that presenting with respiratory distress must be watched carefully until full recovery.

**CONFLICTS OF INTERESTS**

The authors declare that have no conflicts of interests.

**AUTHOR CONTRIBUTION**

Study design, planning, conduction, and manuscript writing were done by Mohammad Momen Gharibvand.



**Fig. 1:** Chest X-ray showing the left side pneumothorax

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