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# A Newborn Emergency; Pneumothorax

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**Objectives:** Pneumothorax is one of the major causes of respiratory distress in newborns. This disorder may develop in newborns who have lung disorders such as respiratory distress syndrome, meconium aspiration syndrome or resuscitation. Pneumothorax usually occurs in newborns under mechanical ventilation. The diagnosis is based on symptoms of respiratuar distress and the evaluation of a chest x-ray. In this study, we retrospectively evaluated newborns with pneumothorax treated in the our neonatal intensive care unit.

**Methods:** We retrospectively evaluated 11 cases with pneumothorax between june 2017-december 2018 (18 months) in neonatal intensive care unit. Patient demographics, presence of underlying disease, localization, details of treatment and prognosis were recorded.

**Results:** 11 newborns with pneumothorax (6male,5 female) were treated. The frequency of pneumothorax is %0.5 of all the patients in neonatal intensive care unit. Mean birth weigt was 2898,18 (1200-3670) g and the gestational age was 37,5 (31-41) weeks. 2 patients were premature and only one treated with surfactant.Mean maternal age was 31,45 (25-42) years. The mean APGAR1 score was 7 and APGAR 5 score was 9,1 at birth. 9 patients were delivered by cesarean section. 9(81%) developed pneumothorax in the first 24 hours. Only one underwent cardiopulmonary resuscitation at birth. 2 patients had transient tachypnea of newborn, one of patients had RDS,9 patients had pneumonia, 2 had congenital anomalia. 6 patients treated with ampicilin/sulbactam/amikacin, vankomycin/meropenem added to treatment in 5. Pneumothorax developed 9 of the patients in mechanical ventilation.The mean arterial blood pH was:7.21 (6.60-7.40) and the mean $PCO_2$ was:50,6 (27-140) mmHg. Meconium aspiration syndrome was observed in 3. The transfontanel ultrasonography were normal in ten patients. Umbilical wein catheterization was performed in 3 patients. One patient had thrombocytosis and one patient had anemia.Tracheal stenosis developed in one patient as a complication of endotracheal intubation. 8 patients with inadequate oral intake were given TPN. 7 patients had pneumothorax on the right, 2 on the left side and 2 had bilateral pneumothorax. 2 infants had tension pneumothorax. Surfactan used in only one. All patients treated with chest tube drainage (8F/6F). The mean chest tube drainage time was 4,5 (1-6) days. Only one patient died after 2 hours of birth. The mean hospital stay was 10.1 (1-16) days.

**Conclusion:** Pneumothorax is a life-threatening condition and should be treated as soon as possible. Also seen in the literature, we found the frequency of pneumothorax 0,05% in our neonatal intensive care unit. Pneumothorax was usually seen in intubated prematures in studies but our study showed the frequency of pneumothorax is higher in term babies. In our study, pneumothorax developed unilaterally in the first 48hours in accordance with the literature. Mortality rate was higher in patients with bilateral pneumothorax in studies but we have one death.

**Keywords:** Pneumothorax, newborn, respiratuar distress, intensive care unit