SYMPTOMATIC SPONTANEOUS PNEUMOTHORAX IN TERM NEWBORN INFANTS: ALWAYS A BENIGN ENTITY?

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Background: Spontaneous pneumothoraces in newborns who have never been exposed to positive pressure ventilation and were without obvious pulmonary pathology often present soon after birth with varying degrees of respiratory distress. Not much however is known, as to how they should be managed and their outcomes. The purpose of this observational study was to characterize the clinical course and the outcome of the term newborn infants with spontaneous pneumothoraces.


Results: Two hundred thirty-seven full-term and near-term infants were identified with symptomatic pneumothoraces: Sixty-two (26%) infants had spontaneous pneumothoraces, and the remaining 175 infants had obvious pulmonary pathology e.g. congenital diaphragmatic hernia, meconium aspiration syndrome etc., and/or were exposed to or receiving mechanical ventilation at the diagnosis of pneumothoraces. Forty-one (61%) of the 62 infants with spontaneous pneumothoraces could be managed conservatively while 21 required surgical interventions in the form of thoracocentesis or/and thoracostomy drainage. Resolution of symptoms occurred in 1 day (median, range 1-2 days) in infants managed conservatively and 2 days (median, range 1-12 days) in infants requiring surgical intervention. Indications for surgical interventions in these 21 infants were: development of persistent pulmonary hypertension (PPHN) during conservative treatment in 9, imminent transport prompting elective evacuation of air at the referring hospital in 7, progressive deterioration in respiratory status with underlying pneumonia in 3 and without pneumonia in 2 infants including 1 infant who had tension pneumothorax. Thirteen of these 21 infants requiring surgical intervention needed mechanical ventilation and 3 infants subsequently required ECMO.

Conclusions: Majority of term and near-term infants with spontaneous pneumothorax has a benign course with good outcome, and can be managed conservatively. Presence of PPHN or underlying pneumonia in newborns diagnosed to have spontaneous pneumothorax should prompt referrals to tertiary level neonatal units in anticipation of the need for surgical interventions and mechanical ventilation.