

# Congenital Diaphragmatic Hernia with Right Pneumothorax with Severe Lung Hypoplasia: Need for Gentle Resuscitation

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## Case

A term male baby with a birth weight of 2.8 kg was born to a primi mother with an Apgar score of 2/3/4. Baby was resuscitated after birth with bag and tube ventilation and shifted to the NICU on T piece resuscitation (Neopuff). Mother had a history of polyhydramnios and was diagnosed as a case of congenital diaphragmatic hernia antenatally. Baby was started on a ventilator and inotropic support. Initially baby was started on conventional ventilation and then shifted to high frequency ventilation as the baby was persistently hypoxic. Chest X-ray done showed left diaphragmatic hernia with mediastinal shift, severe lung hypoplasia and right pneumothorax Figure 1,2. Baby Echo showed severe pulmonary hypertension. Baby expired at 6 hours of life secondary to severe lung hypoplasia and severe pulmonary hypertension.



**Figure 1** showing left diaphragmatic hernia with severe lung hypoplasia, mediastinal shift and right pneumothorax.



**Figure 2** shows left diaphragmatic hernia with severe lung hypoplasia, mediastinal shift and right pneumothorax.

## Discussion

Congenital diaphragmatic hernia is herniation of abdominal content in thoracic cavity leading to lung hypoplasia and mediastinal shift.<sup>1</sup> This leads to severe lung hypoplasia and severe pulmonary hypertension, which is the major cause of mortality.<sup>2</sup> CDH is a rare condition that occurs in < 1:5:10000 births and left sided hernia are more than common than right sided hernia.<sup>3</sup> During resuscitation of antenatally diagnosed neonates with congenital diaphragmatic hernia, gentle ventilation must be done as the lungs are severely hypoplastic and frequently leads to pneumothorax.<sup>4</sup> CDH can be a component of syndromes which includes Pallister-Killian, Fryns, Ghersoni-Baruch, WAGR, Denys-Drash, Brachman-De Lange, Donnai-Barrow or Wolf-Hirschhorn syndromes.<sup>5</sup>

## Lesson to clinicians

- a. Resuscitation of these neonates must be gentle because of hypoplastic lungs as resuscitation with high pressure can lead to iatrogenic pneumothorax
- b. Associated malformations must be searched in neonates of CDH as prognosis also depends upon associated features
- c. Most common cause of death in CDH is pulmonary hypoplasia leading to pulmonary hypertension.

## Acknowledgments

None.

## Conflicts of Interest

None.

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