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Question

Severe neonatal air leak syndrome – Question

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The answers can be found in the following article:
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Keywords

Air leak, pneumopericardium, pneumothorax, respiratory distress, prematurity.

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Case summary

Female neonate born at 29^{+4} gestational weeks by spontaneous vaginal delivery to a 37-year-old mother, with adequate prenatal surveillance

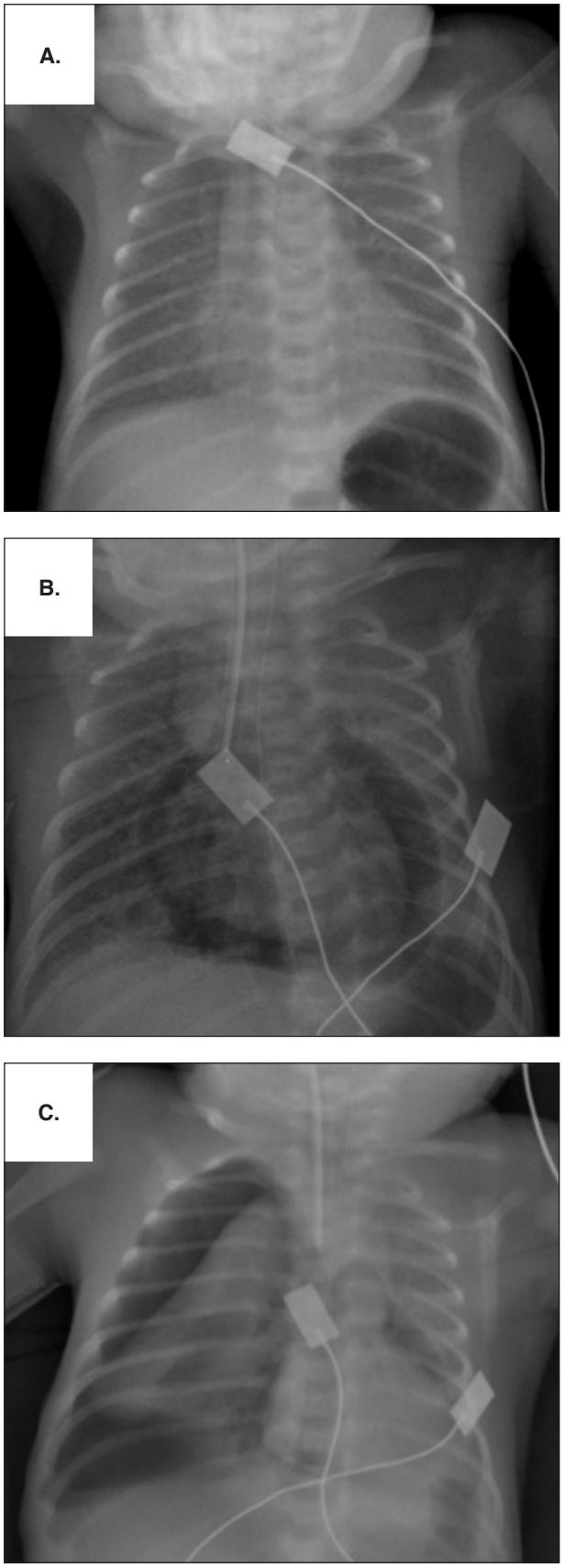

Figure 1. A. Chest X-ray on the 1st day of life. **B** and **C.** Chest X-ray on the 3rd day of life with a 4-hour interval.

and an uneventful pregnancy. Prophylactic antibiotics, tocolytic therapy and a single dose of steroids were given before birth. She was born with very low birth weight (1,440 grams) and with an Apgar score of 8 and 9 (first and fifth minutes, respectively). Alveolar recruitment with nasal Continuous Positive Airway Pressure (nCPAP) was performed with a maximum of 0.30 oxygen inspirational fraction. She was admitted to our Neonatal Intensive Care Unit and maintained on nCPAP due to mild respiratory distress. Blood gases were normal and her first chest X-ray is presented in **Fig. 1A**.

She remained clinically stable on bilevel CPAP with a maximum of 0.35 oxygen inspirational fraction up to 36 hours of life, after which she developed significant respiratory distress with increasing oxygen requirements and the need for mechanical ventilation (chest X-ray shown in **Fig. 1B**). Heart rate and arterial blood pressure remained stable despite the evidence of echocardiographic signs of cardiac dysfunction, such as eyeball hypocontractility. Aminergic support was initiated and ventilator parameters were weaned. Within 4 hours she developed progressive respiratory insufficiency, without cardiovascular collapse – chest X-ray is shown in **Fig. 1C**.

Questions

1. What do you see in each chest radiograph (**Fig. 1**)?
2. What is your diagnosis?
3. Which procedures are recommended in the situations shown in **Fig. 1B** and **Fig. 1C**?

Declaration of interest

All Authors have no conflicts of interest to declare.