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LETTER TO EDITOR (VIEWERS CHOICE)

# SPINNAKER-SAIL SIGN - A SIGN TO NEONATAL PNEUMOMEDIASTINUM

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The Spinnaker. Sail sign, named for its resemblance to the headsail of a boat, is a radiological sign indicative of a spontaneous anterior pneumomediastinum.[1] This sign consists of a wedge-shaped opacity extending into the superior mediastinum, resulting from the displacement of thymic tissue laterally and superiorly due to mediastinal air elevation, which separates it from the cardiac silhouette.[1,2]

We report a clinical case of a male infant weighing 3000 g was born at 40 weeks of gestation by vacuum-assisted vaginal delivery. Prenatal care was irregular, with no follow-up since the 16th week of gestation and was complicated by gestational diabetes starting from the 1st trimester. Immediate postnatal resuscitation was required in the delivery room, including positive pressure ventilation and subsequent nasal continuous positive airway pressure ventilation (nCPAP) due to respiratory distress. Apgar scores were 6 and 8 at 1 and 5 minutes, respectively. The neonate was transferred to the neonatology unit under nCPAP ventilation.

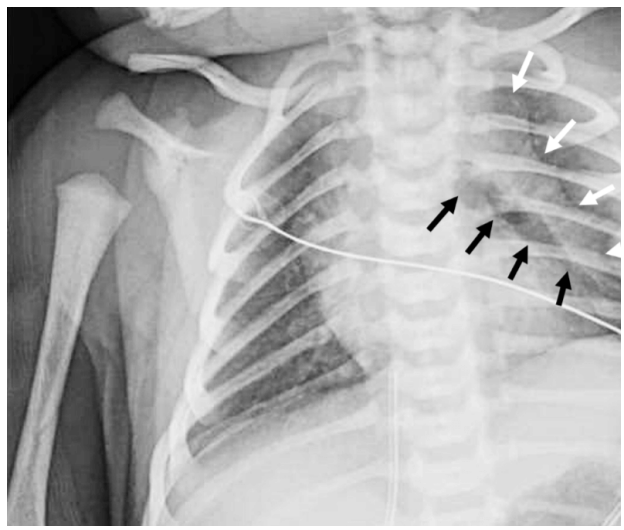
Upon admission, persistent respiratory distress with tachypnea and oxygen requirement (up to 60% FiO2) prompted a chest radiograph, revealing a large wedge-shaped opacity extending from the superior mediastinum to the left cardiac silhouette (white arrows), inferiorly delimited by a hypertransparency (black arrows) (Figure 1). Initial management included two hours of nCPAP, followed by 12 hours of high-flow nasal cannula support. Subsequent weaning of respiratory support was successful.

A chest ultrasound on the third day identified the left paracardiac hypotransparent image as the left lobe of the thymus, with no concurrent lung parenchymal or pleural abnormalities noted.

Given suspicion of intraamniotic infection, later confirmed by placental histopathologic, antibiotics were initiated after birth. Normal serial clinical and analytical examinations and sterile blood cultures led to antibiotic discontinuation 96 hours post-delivery.

The patient exhibited a favorable clinical and radiological course without evidence of cardiovascular compromise, leading to discharge on day seven of life.

**Figure 1.** Chest radiograph showing a wedge-shaped opacity in the left hemithorax (white arrows), representing thymic tissue displaced from its usual location by a collection of mediastinal air (black arrows).



Pneumomediastinum in term neonates is often associated with meconium aspiration syndrome, hyaline membrane disease, positive pressure ventilation, endotracheal intubation and mechanical ventilation. In cases without underlying lung disease, it may occur following traumatic deliveries, endoesophageal procedures or cardiac catheterization.[3,4,5] On the other hand, spontaneous neonatal pneumomediastinum is characterized by interstitial air in the mediastinum without a clearly defined precipitating factor and it is a rare condition in neonates with limited literature reports.[3,5]

Although generally benign, rare complications include pneumopericardium and pneumothorax.[5]

Diagnosis typically relies on a combination of physical examination and confirmatory chest radiograph.[5] Ultrasound has a good safety profile and can been used as an adjunct to chest radiograph in neonates.[6]

While pneumomediastinum presents with diverse manifestations on chest radiographs, the Spinnaker-Sail sign is a distinctly rare feature, pathologic in nature and requiring differentiation from normal radiologic findings

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such as thymic sail sign and thymic wave sign.[7]

In clinically stable neonates, a conservative approach is generally preferred, with periodic chest radiographs or ultrasounds used for follow-up.[2] Although there have been case reports mentioning drainage of pneumomediastinum, spontaneous resolution is frequently reported, with or without supplemental oxygen.[6]

**Compliance with Ethical Standards**

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**Conflict of Interest** None

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