

IMAGES IN EMERGENCY MEDICINE

Pulmonary

Girl with respiratory failure and shock

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A 2-year-old girl with Sotos syndrome presented to the emergency department with dyspnea and seizures. Tachypnea and seesaw respiration became evident when convulsions were controlled. On beta-agonist inhalation, expiratory wheezing, and prolonged expiration were noted. Point-of-care (POC) ultrasound showed bilateral lung sliding. After endotracheal intubation with neuromuscular blockage, high pressure was required to inflate her chest. The oxygen saturation was 80%–90% on bag-mask ventilation with 100% oxygen; bilateral breath sounds were weak, especially on the right. She was diagnosed with bilateral tension pneumothorax based on the absence of bilateral lung sliding on POC ultrasound, bilateral pneumothorax on chest x-ray (Figure 1), heart rate of 200 beats/min, blood pressure of 92/60 mmHg, and cold extremities. Needle decompression was performed immediately and air was degassed continuously (Figure 2). Subsequently, bilateral tube thoracotomy was performed (Figure 3). POC ultrasound revealed lung sliding and lung pulse. Chest computed tomography did not show bullae. Tension pneumothorax was due to high positive pressure ventilation with asthma exacerbation. She was discharged without sequelae 1 month after admission.

1 | DIAGNOSIS

Bilateral tension pneumothorax. Bilateral tension pneumothorax may be difficult to diagnose, as it is rare in children and there are little differences on physical examination or echocardiography between both sides of the chest. In the present case, if POC ultrasound had been done



FIGURE 1 Chest x-ray after intubation reveals bilateral pneumothorax with smaller heart due to compression

immediately after intubation on suspicion of tension pneumothorax, air could have been degassed before taking the x-ray. When high pressure is required for ventilation, tension pneumothorax should be suspected, even if there is no left-right difference on physical examination.

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FIGURE 2 Chest x-ray after needle decompression with continuously degassing reveals slightly inflated lungs and improved heart size

INFORMED CONSENT

Informed consent for publication was obtained from the parents.

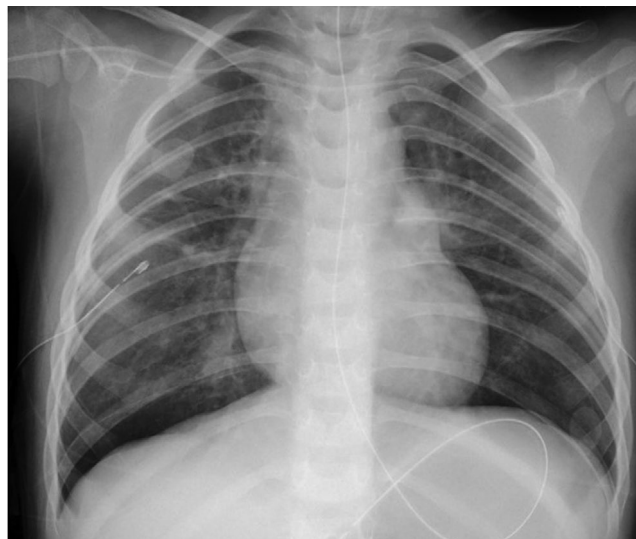


FIGURE 3 Chest x-ray after bilateral tube thoracotomy reveals inflated lungs and improved heart size

How to cite this article: Tetsuhara K, Kamouchi A, Iwaya Y, et al. Girl with respiratory failure and shock. *JACEP Open*. 2022;3:e12873. <https://doi.org/10.1002/emp2.12873>