

**IMAGES IN EMERGENCY MEDICINE**

## Pediatrics

# Infant with lower extremity weakness

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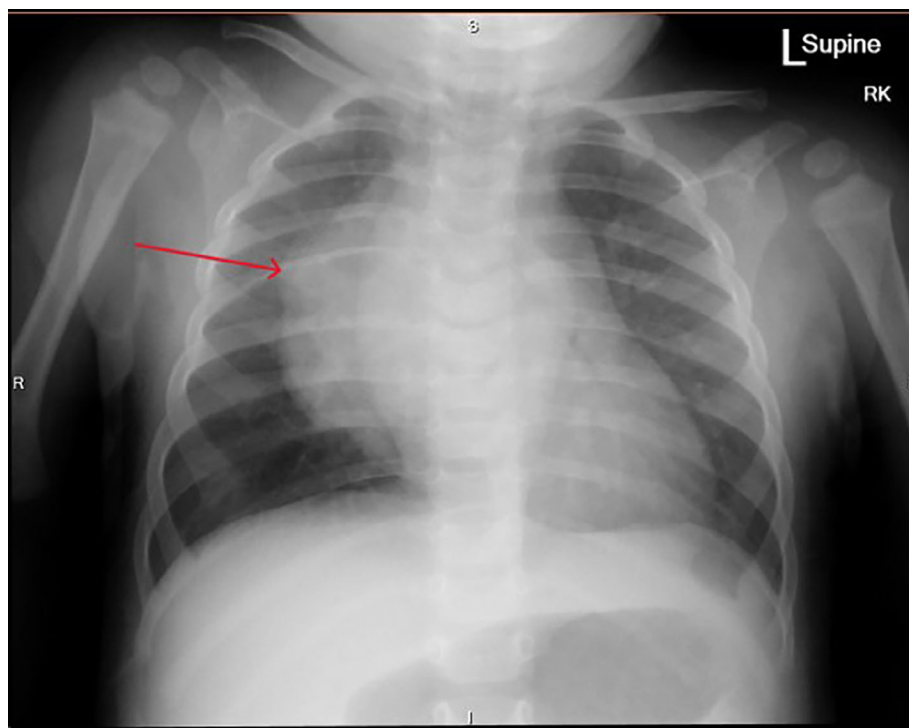
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Email: [abdullahkhan120@gmail.com](mailto:abdullahkhan120@gmail.com)**1 | CASE PRESENTATION**

A 7-month-old infant, previously healthy, presented with intermittent fever, non-barking cough for the 7 days and decreased ability to move lower extremities for the last 3 days. Parents also noticed that she is not able to cruise and turn from side to side. Prior to the current presentation, the child had achieved appropriate developmental milestones for age. There was no history of constipation or urinary retention and a history of honey intake 3 days ago. On examination, the patient was able

to move lower extremities against gravity with movement against resistance. Brisk patellar tendon reflexes and sustained ankle clonus were also noticed. The rest of the respiratory, cardiovascular, and gastroenterological examinations were normal. No palpable lymph nodes were appreciated.

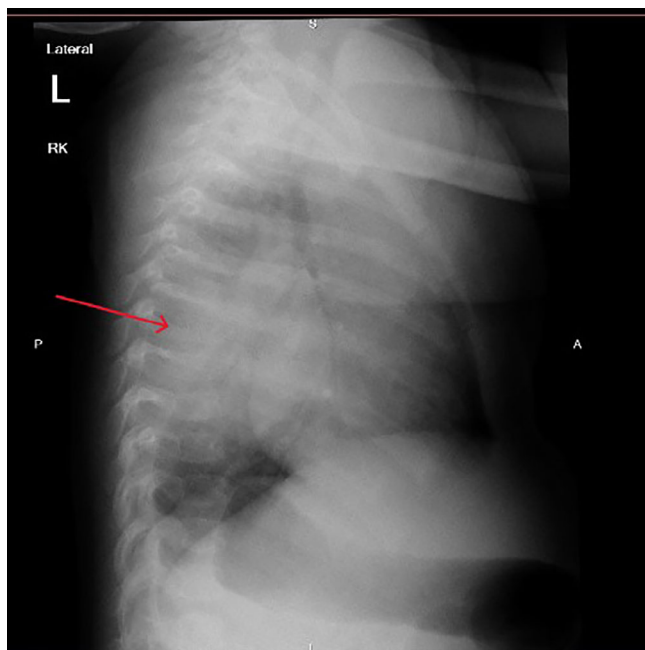
Neurology was consulted and magnetic resonance imaging (MRI) of the brain and spine were scheduled. Considering the history of fever and cough, a frontal chest radiograph was obtained that showed a dense structure in the hemithorax (Figure 1, red arrow).



**FIGURE 1** Chest x-ray (AP view) shows dense structure in the right hemithorax (red arrow).

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**FIGURE 2** Chest x-ray (lateral view) shows dense mass in the posterior mediastinum (red arrow).

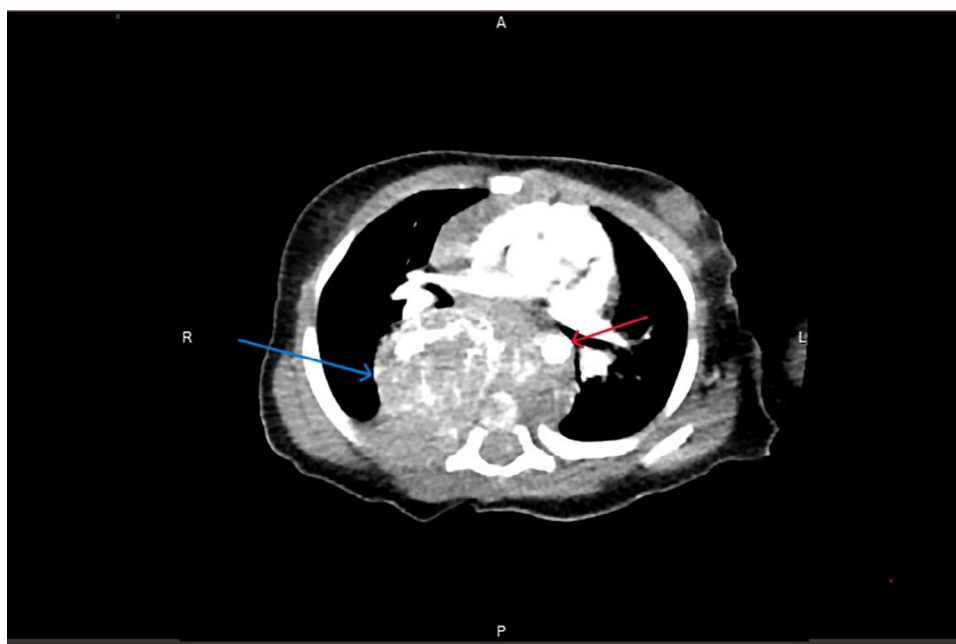
A lateral radiograph suggested a dense mass in the posterior mediastinum (Figure 2, red arrow). A computed tomography (CT) scan of the chest was obtained with a mediastinal mass with intraspinal extension suspicious of neuroblastoma (Figure 3, blue arrow shows neuroblastoma and red arrow shows descending aorta engulfed in neuroblastoma; Figure 4, blue arrow shows neuroblastoma with calcifications and red arrow shows intraspinal extension). The patient

was admitted to the oncology unit and biopsy of mass showed poorly differentiated neuroblastoma. The chemotherapy (carboplatin and etoposide) was started and showed excellent response.

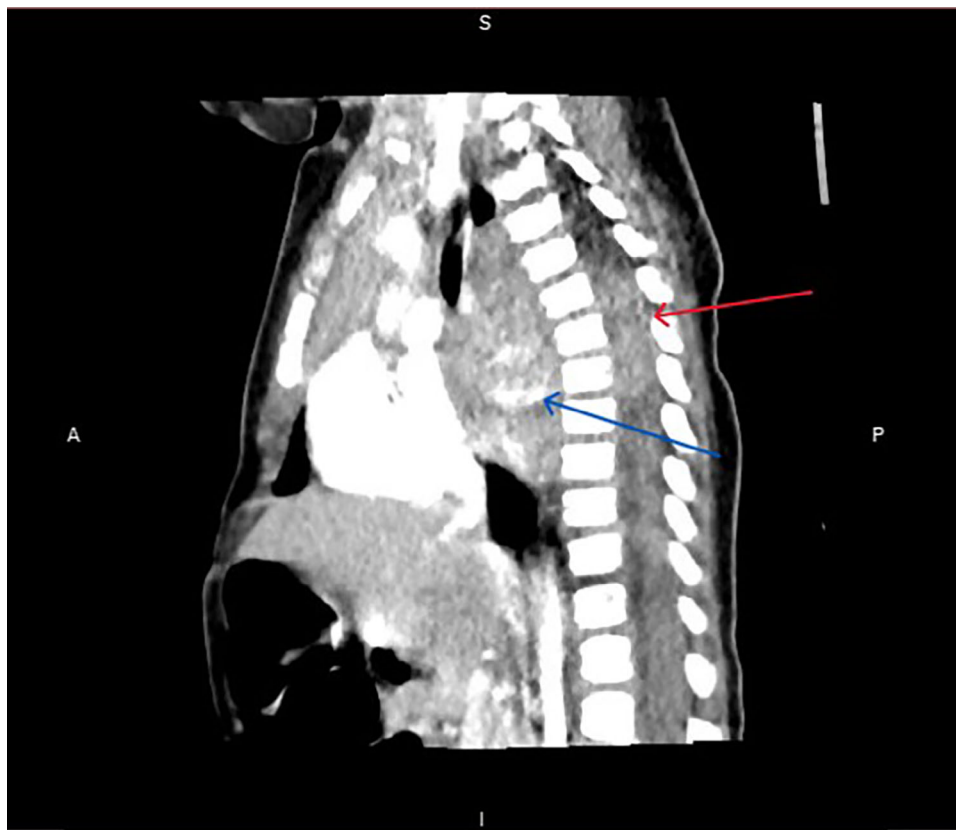
## 2 | DIAGNOSIS: THORACIC NEUROBLASTOMA

In children, neuroblastoma is the most common extracranial solid tumor originating from the neural crest cells along the sympathetic nervous system and adrenal glands.<sup>1</sup> Thoracic neuroblastomas are posterior mediastinal tumors and account for one fourth of all cases of neuroblastoma but are the most common cause of mediastinal mass in children less than 2 years of age. It has a wide variety of presentations ranging from respiratory symptoms, such as cough and shortness of breath to neurologic symptoms such as paralysis, limping, and Horner syndrome.<sup>2</sup> The chest radiographs are good initial screening tests with excellent sensitivity to identify thoracic masses, especially neuroblastoma. Neuroblastoma has an excellent prognosis. Almost half of the cases can regress spontaneously.<sup>3</sup>

In evaluating infants and younger children with suspected thoracic masses, it is important to consider the appearance of normal thymus on chest radiographs. A normal thymus is visible on frontal chest radiographs till the age of 3 years.<sup>4</sup> Thymus is in the anterior and superior mediastinum. It has characteristic “thymic sail sign” on frontal chest radiograph, which is lateral triangular extension of normal thymus. The right thymic lobe has straight inferior and convex lateral borders giving it a sail-like appearance.<sup>5</sup> In infants with suspected thoracic masses, it is important to obtain lateral chest radiographs to evaluate the location of the mass and to differentiate it from normal thymus. In our patient, the lateral radiograph shows mass in the posterior mediastinum.



**FIGURE 3** Computed tomography scan of chest (axial view) shows neuroblastoma (blue arrow) and descending aorta (red arrow).



**FIGURE 4** Computed tomography scan of chest (sagittal view) shows neuroblastoma (blue arrow) and its intraspinal extension (red arrow).

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#### CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

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