

Imaging of Bifid Fourth Rib Presenting as a Chest Wall Mass in an Infant

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Case Description

A 10-month-old infant presented with a hard chest wall mass, palpable at the level of the left fourth rib, and was found to have a bifid left fourth rib on chest radiography (Fig. 1). This was later confirmed using 3-dimensional chest computed tomography reconstruction (Fig. 2), which also ruled out any other masses in the chest wall or in the pleural or pericardial spaces.

Comment

Bifid rib is a rare congenital abnormality with an overall prevalence of 0.15% to 3.4% (mean, 2%). Several case reports and case series have described bifid rib in older children and adults who present with chest wall masses.¹ However, in neonates and infants, sarcomas are the most common causes of asymptomatic chest wall masses; these include Ewing sarcoma, rhabdomyosarcoma, osteosarcoma, and chondrosarcoma.² Therefore, any chest wall mass in an infant or child should be investigated using chest radiography followed by computed tomography.³ There are no prior reports in the literature of bifid rib presenting as a chest wall mass in a neonate or infant.

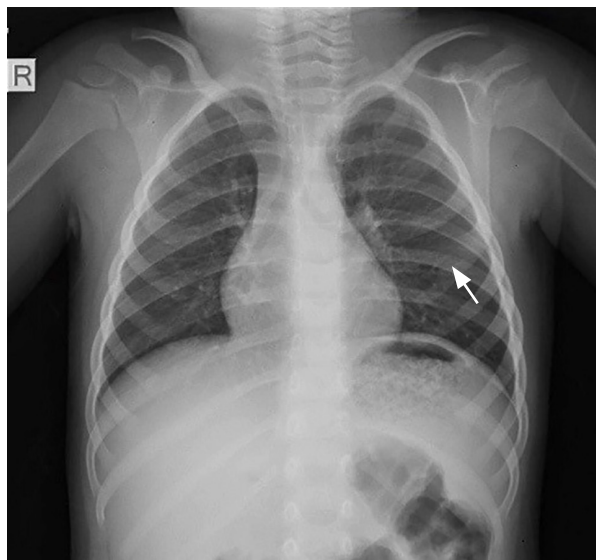


Fig. 1 Chest radiograph showing a bifid left fourth rib.

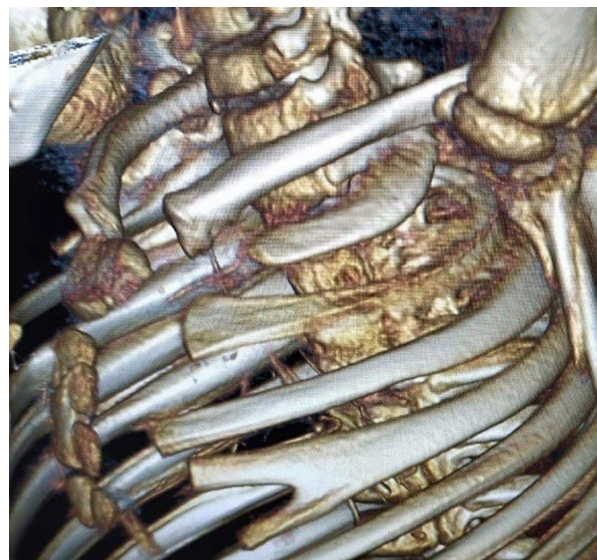


Fig. 2 Three-dimensional computed tomography reconstruction of the chest showing an isolated bifid left fourth rib.

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A single bifid rib is most commonly a normal incidental finding and does not require intervention. However, any neonate or infant presenting with a bifid fourth rib should be investigated for Gorlin syndrome. These patients may be asymptomatic during childhood but are predisposed to develop basal cell carcinoma and medulloblastoma.⁴ Although rare, an association between bifid ribs and intracranial hemorrhage in infants has been reported.⁵ Therefore, infants with bifid rib should be followed closely.

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