

## An asymptomatic radiology finding with surgical indication

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Figure 1.

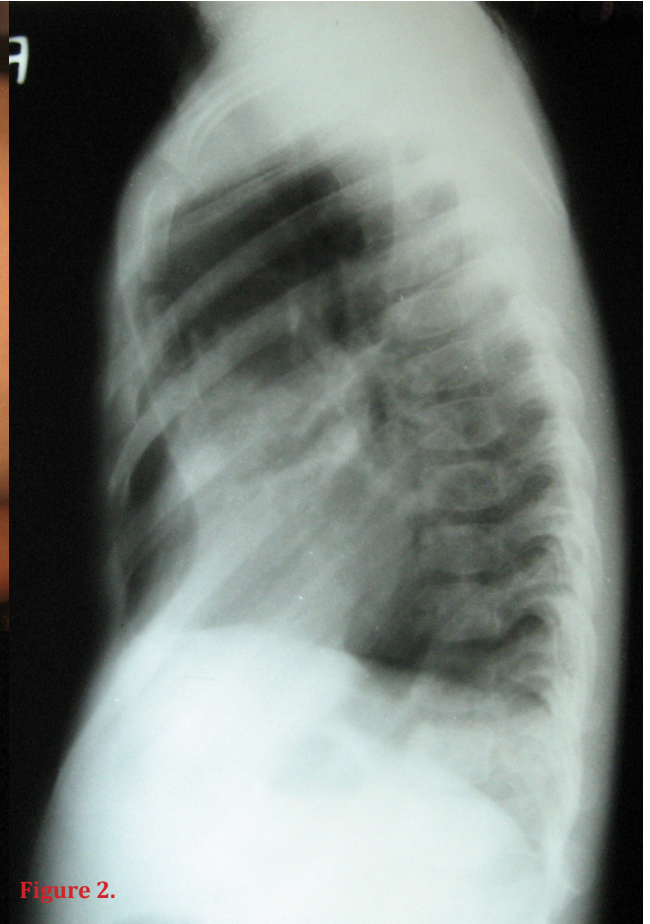


Figure 2.

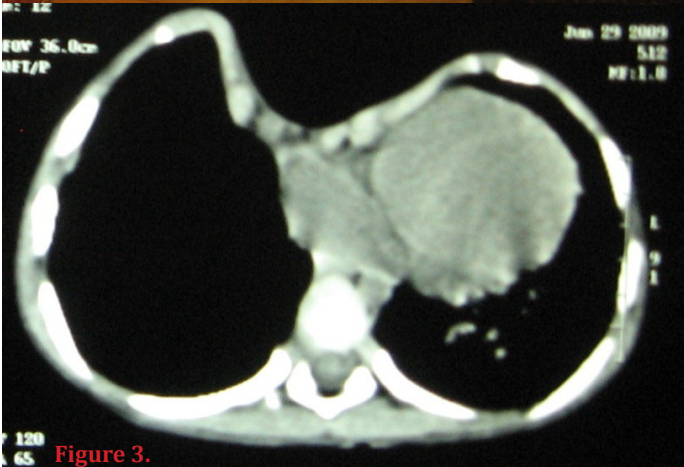


Figure 3.

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**CASE**

A 10 year old boy came to our chest clinic for preanaesthetic check-up before appendicectomy with a chest x-ray (CXR) PA view. He had no respiratory complain. We thoroughly examine the boy including inspection of the anterior chest wall (Figure 1). After seeing the anterior chest wall, we advised him a lateral CXR (Figure 2). To find out the indication for surgery we did a CT scan thorax (Figure 3).

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## CONCLUSION

Patients with upper limb anomalies and cardiac diseases should be evaluated further to rule out HOS. Familial screening should be done. Though genetic diagnosis may not always be possible in resource poor settings like ours however early diagnosis and intervention as required will definitely help to prevent the possible complications in such patients.

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## ANSWER

Inspection of chest shows inward depression of chest producing sunken in and caved appearance consistent with the diagnosis of pectus excavatum (Figure 1). Lateral CXR shows inward displacement of sternum with ribs seen anterior to sternum, suggests the diagnosis of pectus excavatum (Figure 2). CT scan thorax shows inward displacement of sternum compressing the heart, confirms the diagnosis of severe pectus excavatum with surgical indication (Figure 3).

Pectus excavatum is characterized by inward displacement of the sternum, creating a depression in the chest. Classification of pectus excavatum is categorized according to severity (mild, moderate, or severe) based on radiological criteria. The CT scan is used to ascertain the severity of the deformity, by determining the Haller index: a ratio of the measure of the transverse diameter of the chest, divided by the sagittal measure of the distance from the sternum to the vertebral body. The Haller index should be obtained at the deepest point of the deformity. Haller index between 2 and 3.2 is considered a mild deformity; between 3.2 and 3.5 is moderate and 3.5 or above is a severe deformity.<sup>1</sup> Both moderate and severe deformities can be considered candidates of corrective surgery. This patient had a Haller index of 3.90. The severity of this index, in the setting of PFTs consistent with restrictive pulmonary process, with an echocardiogram that reveals compression of the heart makes an indication of corrective surgery. A recent study revealed positive correlations between severity of sternal deformity and cardiac rotation, as well as clinically significant symptoms.<sup>2</sup> The case was atypical in the sense that the symptoms of the patient did not correlate with the radiological findings.

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