Changes in the skeletal system and extramedullary hematopoiesis in a patient with thalassemia

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A 25-year-old male patient with thalassemia major presented at the polyclinic for a routine examination. On the pulmonary radiograph, mass lesions were observed superimposed on the parenchyma of both lungs (*Figure 1*). In the bone structures, scattered expansile and lytic areas were determined. On the CT examination applied because of this, expansile lytic expansions were determined in all the ribs bilaterally, in the sternum, in both scapula and in the vertebrae (*Figure 2*). There were scattered losses of height in the vertebrae corpuses. All the bone changes were evaluated as secondary to excessive erythropoiesis. On the thoracic CT, mass lesions were observed associated with foci of extramedullary hematopoiesis in the paravertebral areas (*Figure 3*). After informing the patient of the condition, rather than the routine follow-up tests, blood transfusion was administered.

Skeletal changes in patients with untreated thalassemia originate from ineffective erythropoiesis and result in expansion of the bone marrow. The whole skeletal system may be affected. In addition, ineffective erythropoiesis can

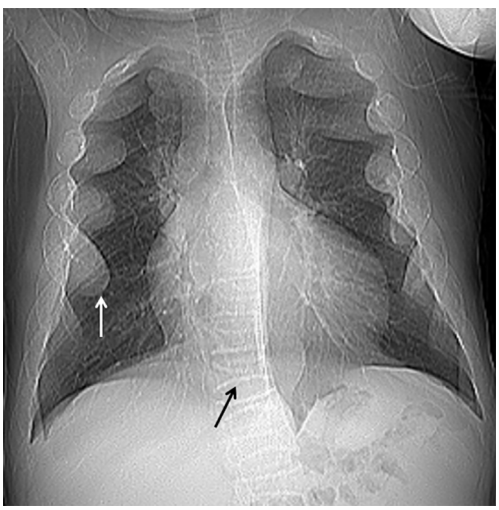

Figure 1 Expansion in the ribs forming the suspected mass on both sides (white arrow) and scattered losses of height in the vertebrae (black arrow) observed on the posterior anterior (PA) pulmonary radiograph.

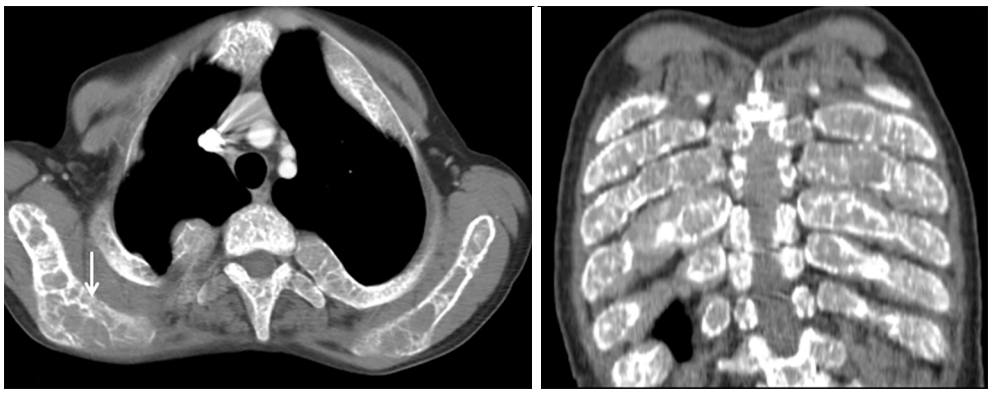

Figure 2 Expansion and lytic areas observed in the bilateral ribs, scapula, sternum and vertebrae on the axial and coronal CT thorax image.

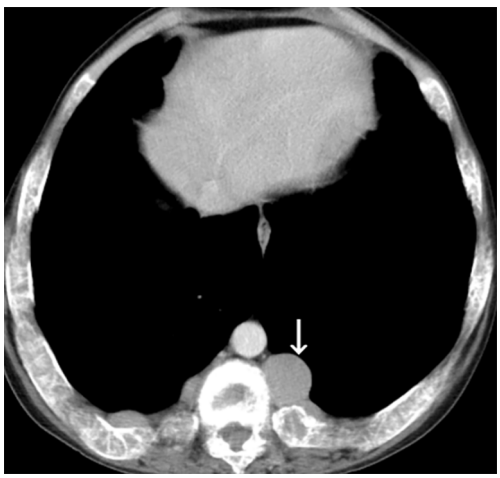

Figure 3 Extramedullary hematopoiesis areas observed in the left paravertebral region on axial thorax CT image.

develop in paravertebral areas forming the appearance of a mass in extramedullary areas (1-3).

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None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

References

1. Tyler PA, Madani G, Chaudhuri R, Wilson LF, Dick EA. The radiological appearances of thalassaemia. Clin Radiol 2006;61:40-52.
2. Tunaci M, Tunaci A, Engin G, Ozkorkmaz B, Dinçol G, Acunaş G, Acunaş B. Imaging features of thalassemia. Eur Radiol 1999;9:1804-9.
3. Chan YL, Li CK, Pang LM, Chik KW. Desferrioxamine-induced long bone changes in thalassaemic patients - radiographic features, prevalence and relations with growth. Clin Radiol 2000;55:610-4.

