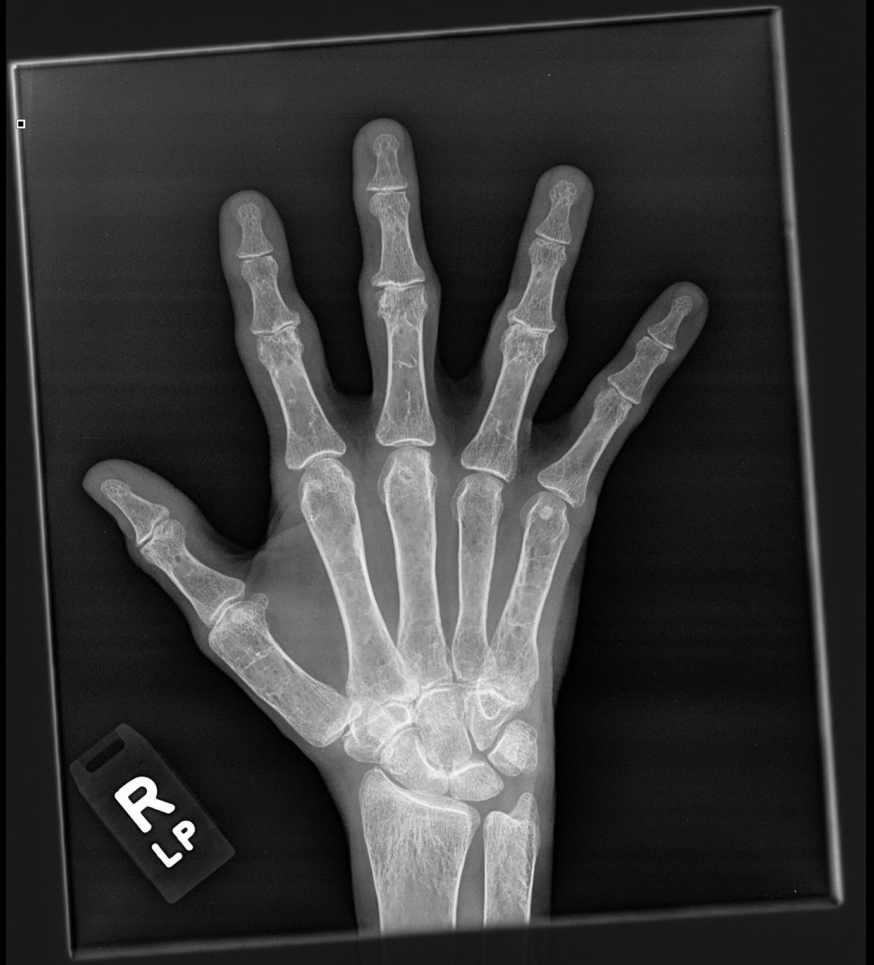
55 M

Melanie Chang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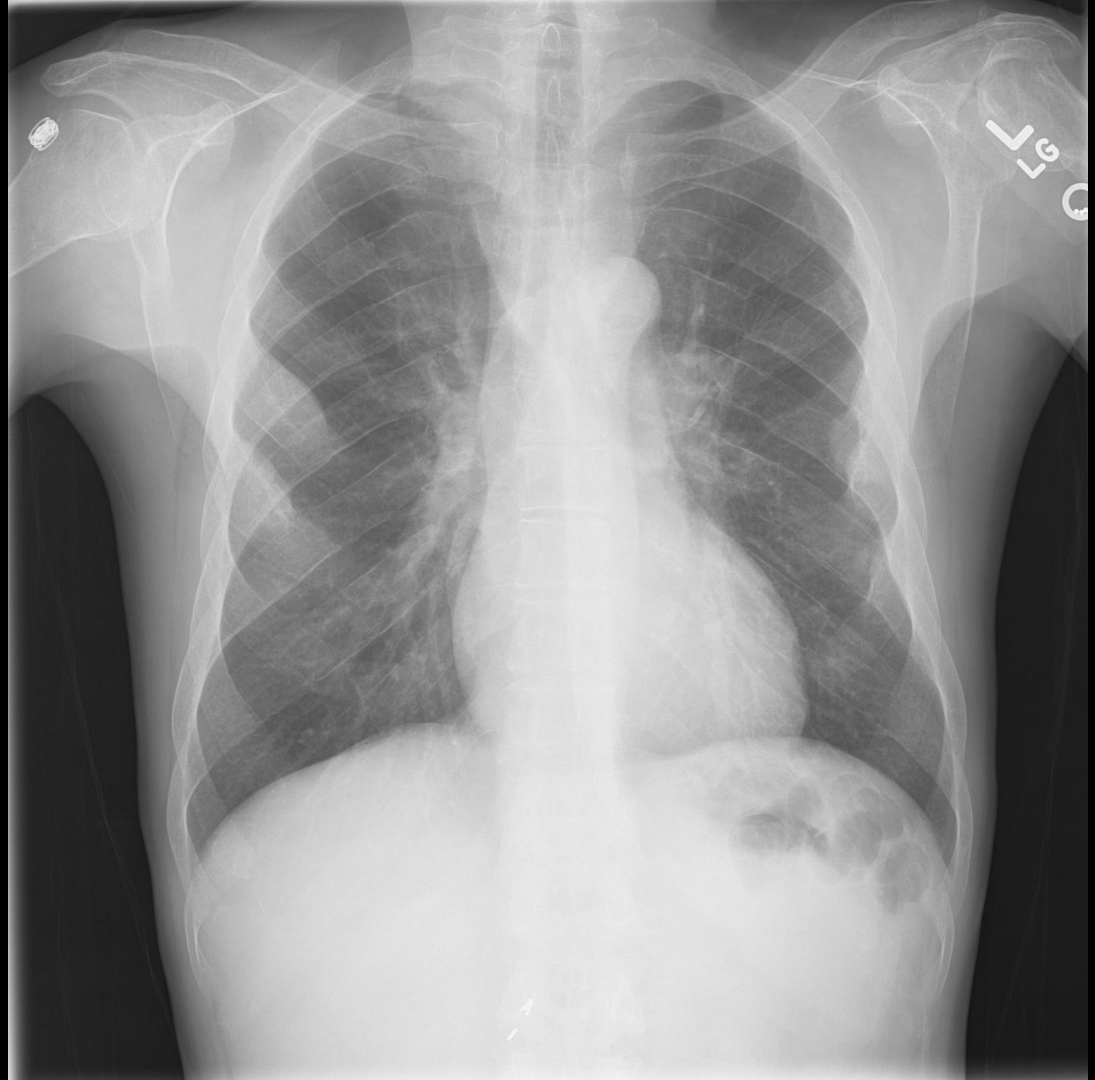
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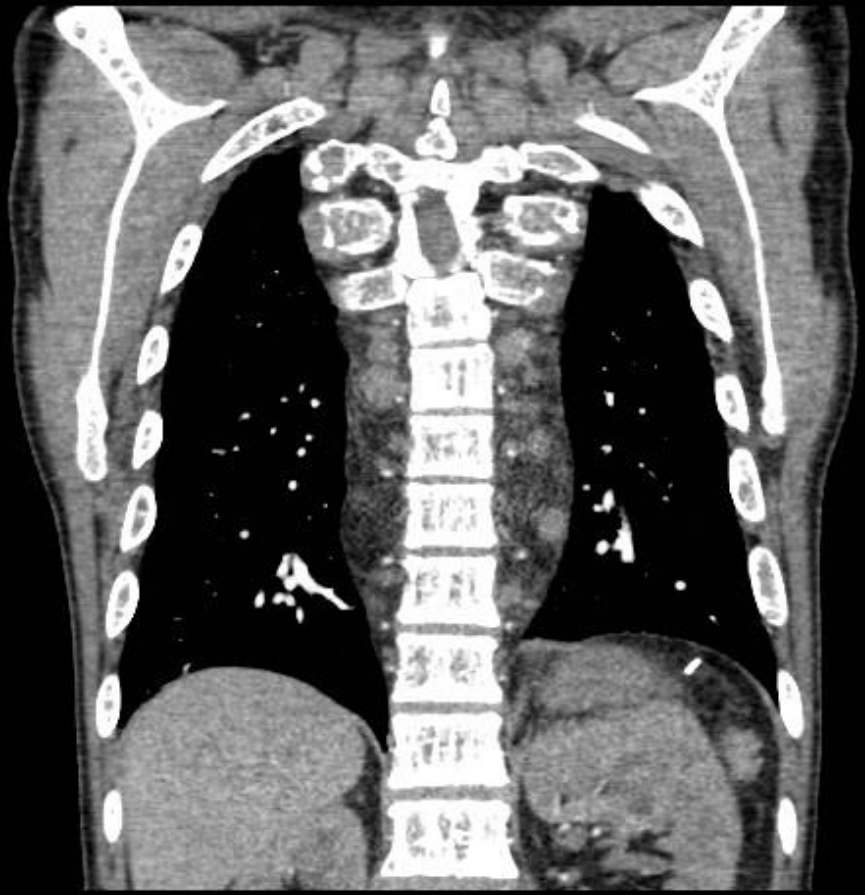
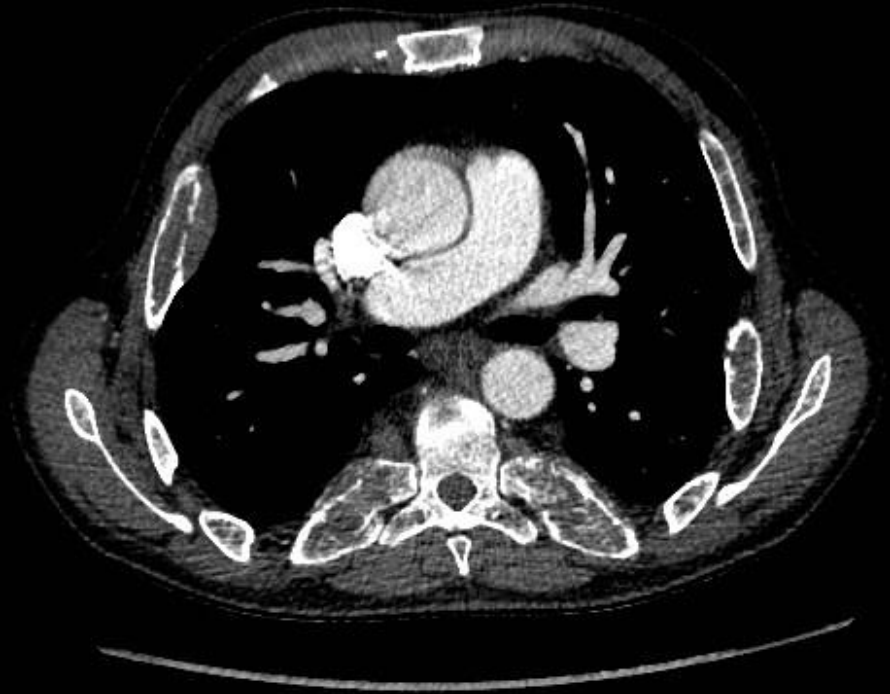
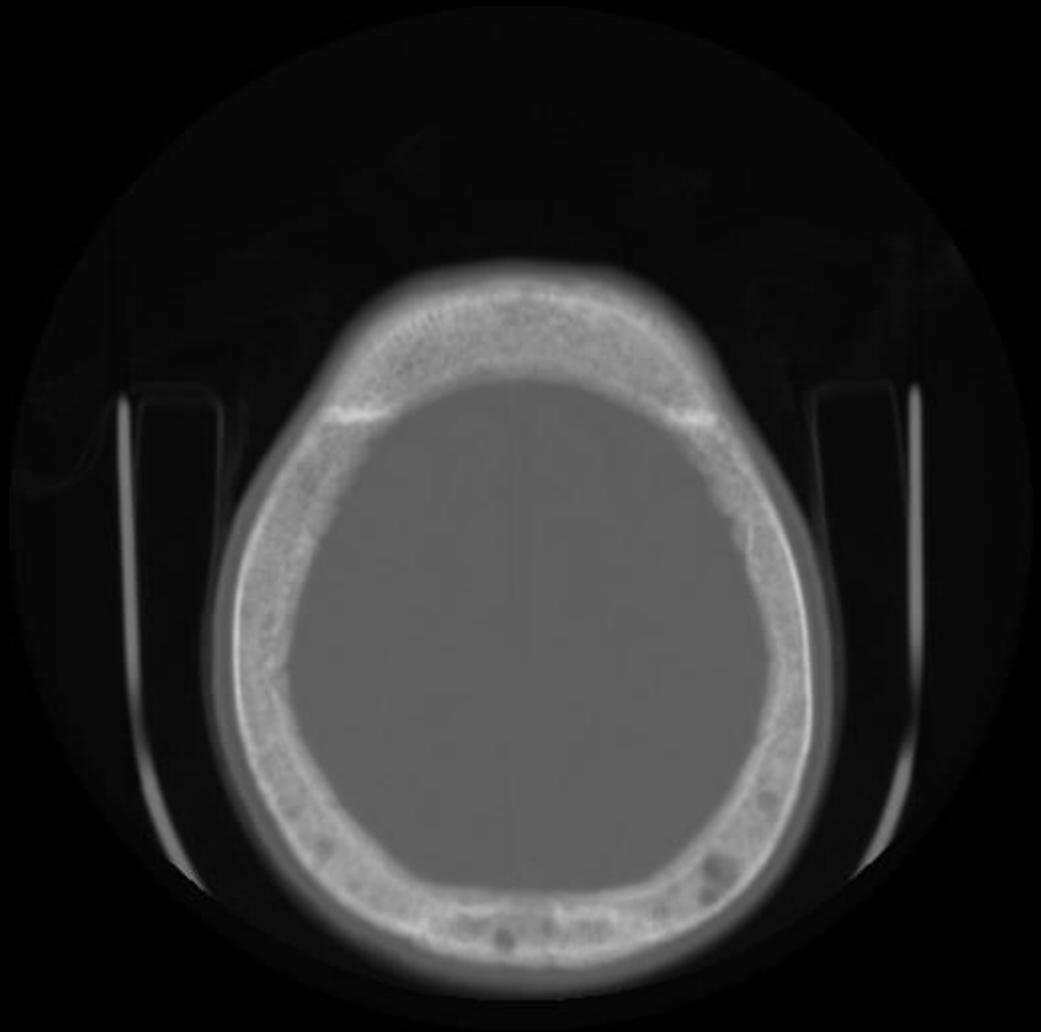






Thalassemia

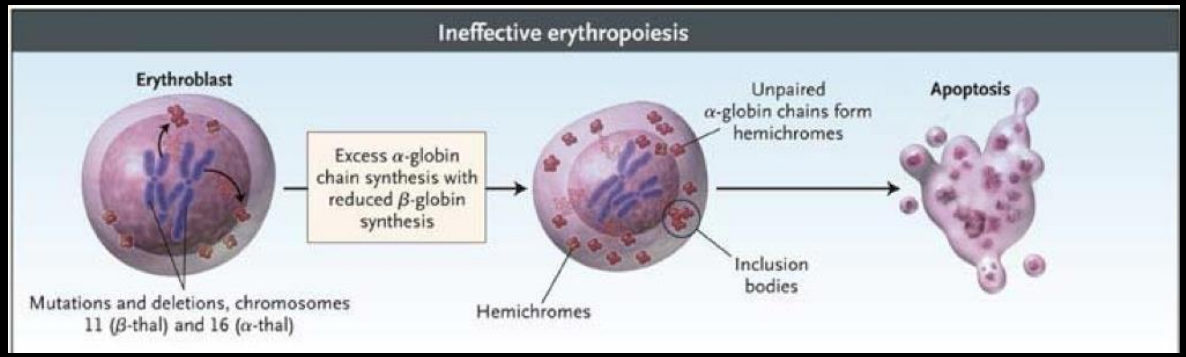
Described by Cooley in 1927

Autosomal recessive microcytic anemia

Decreased production of globin chain synthesis (alpha or beta)

Alpha thal- Southeast Asia, Middle East, China, African

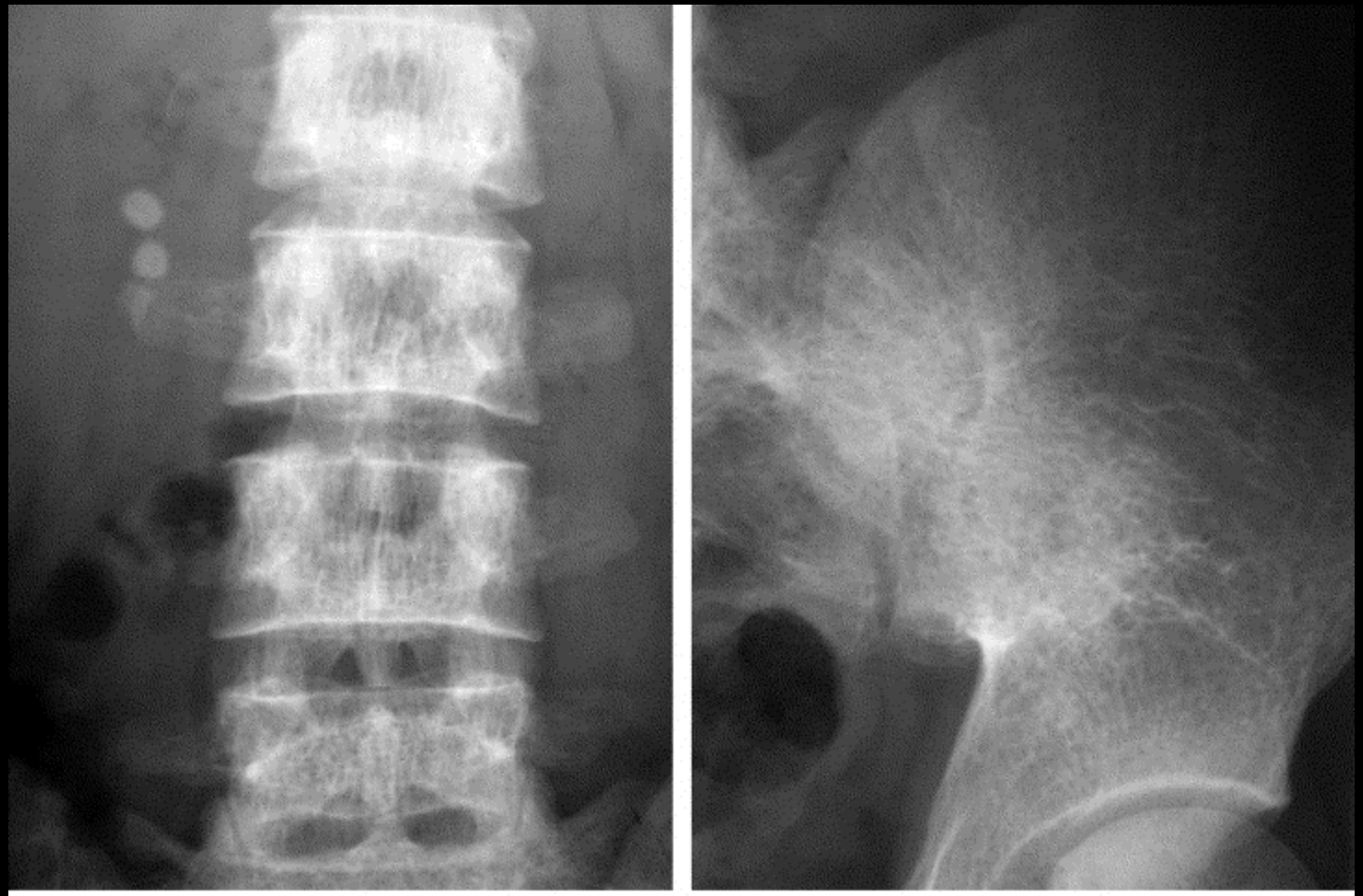
Beta thal- Mediterranean



Imaging features

Skeletal: osteoporosis, marked bone marrow expansion, premature fusion of growth plates, predisposition to vertebral compression fractures

Non-skeletal: extramedullary hematopoiesis, cholelithiasis, hepatosplenomegaly



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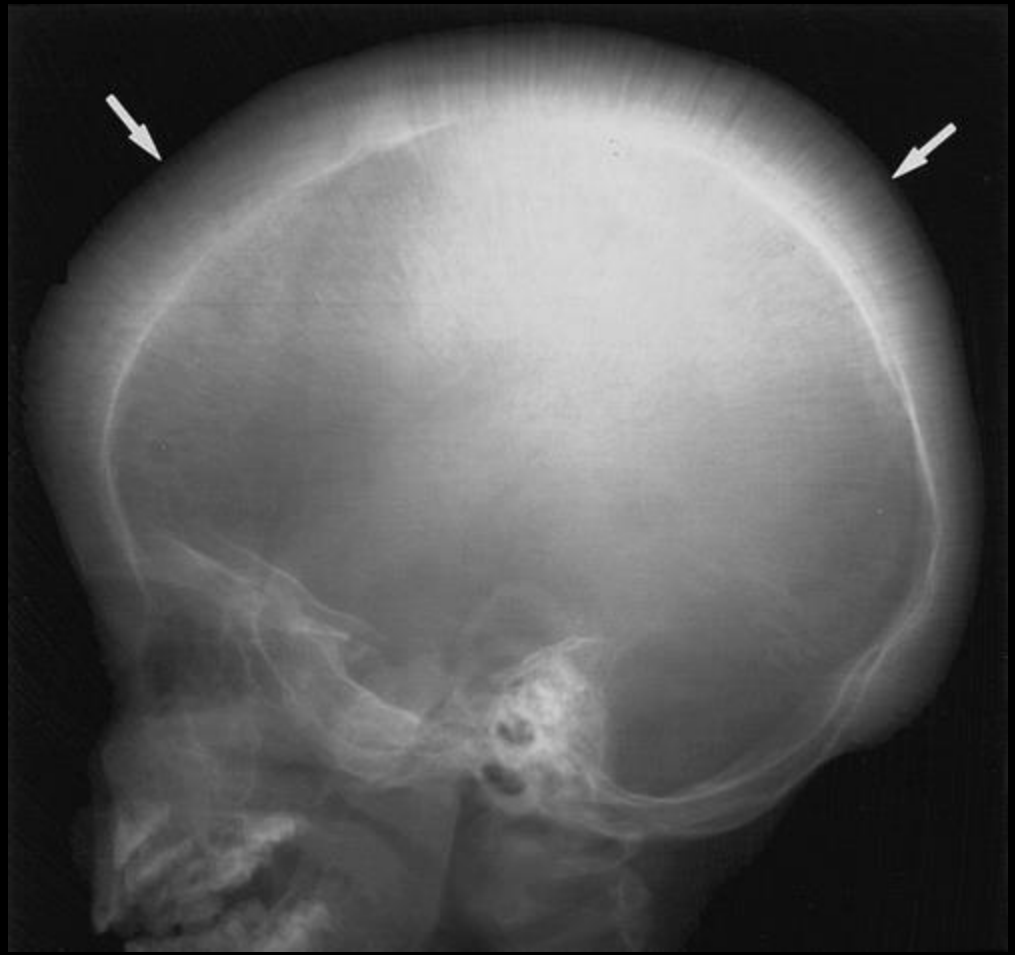

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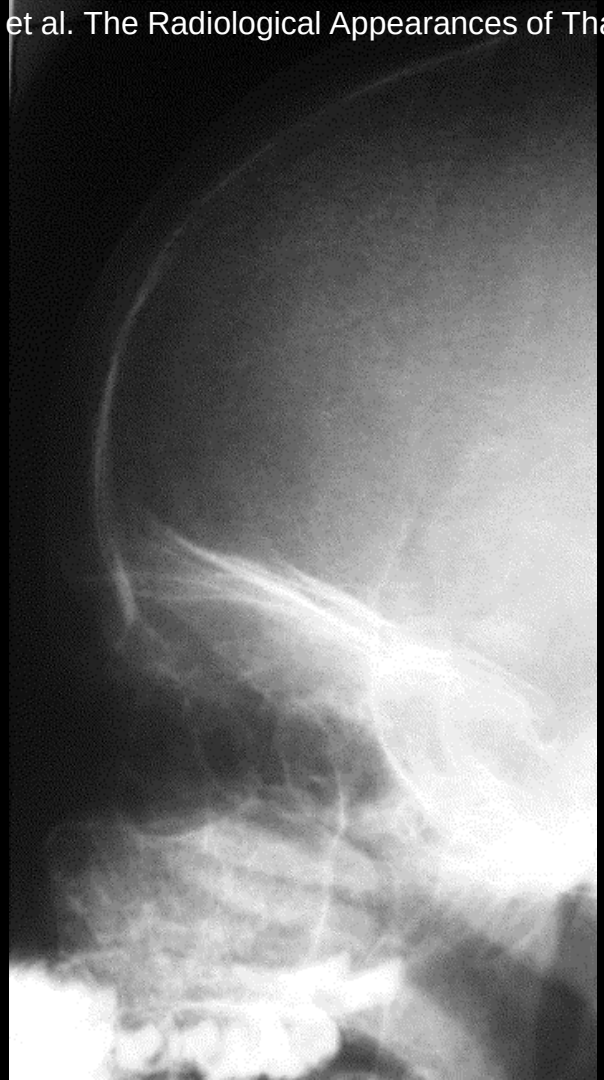
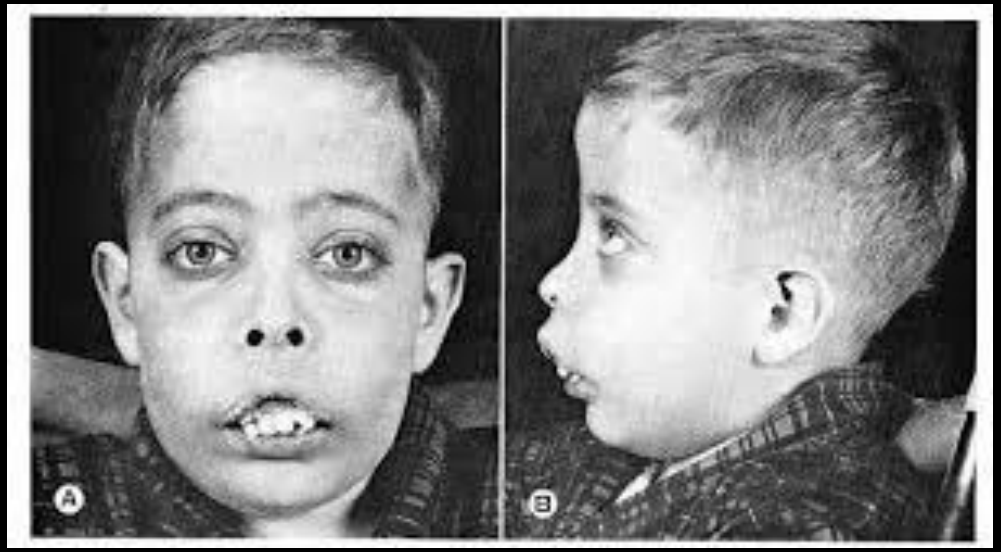
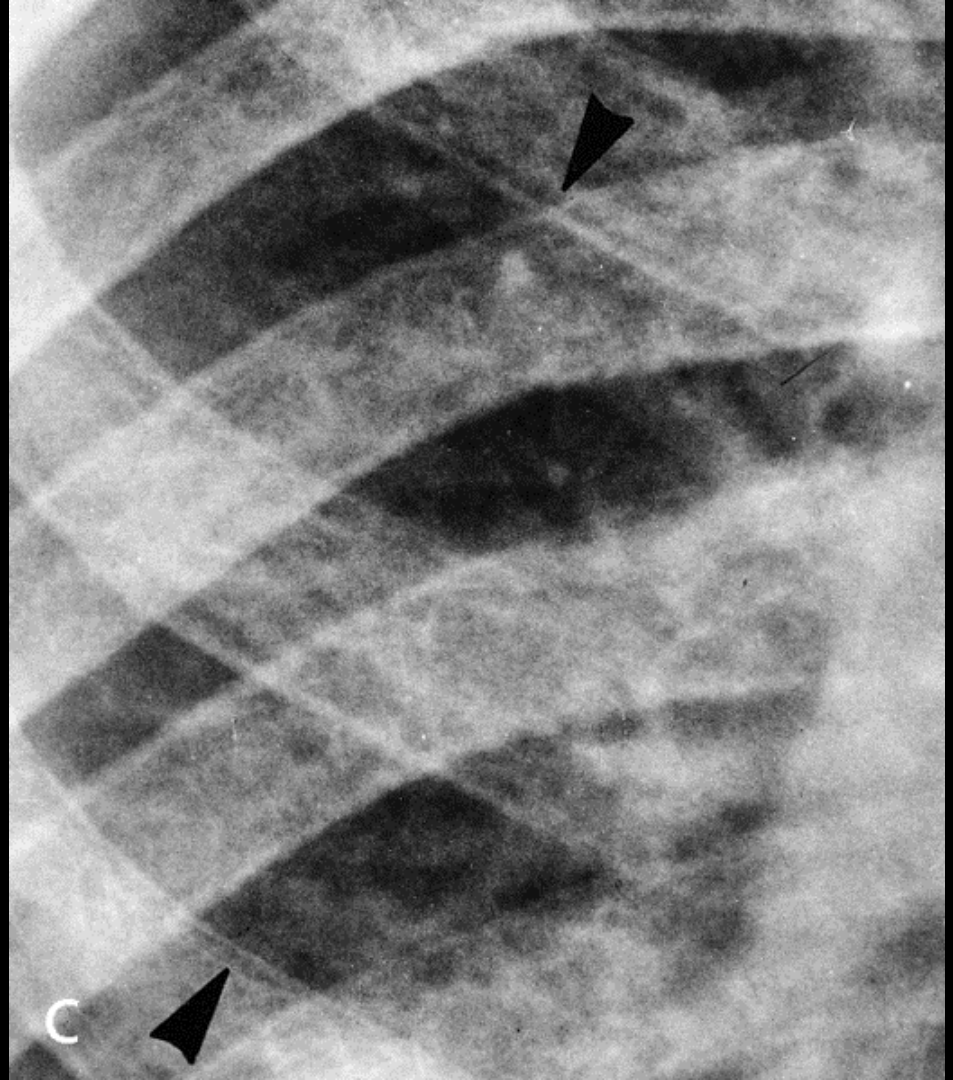




Surgical reconstruction of the maxilla in severe thalassemia. Jurkiewicz MJ, et al. Plastic and Reconstructive Surgery 1967; 39(5): 459-464.



The Hemoglobinopathies: Sickle cell Disease and Thalassemia
www.isradiology.org/tropical_deseases/tmcr/chapter31/radiological9.htm

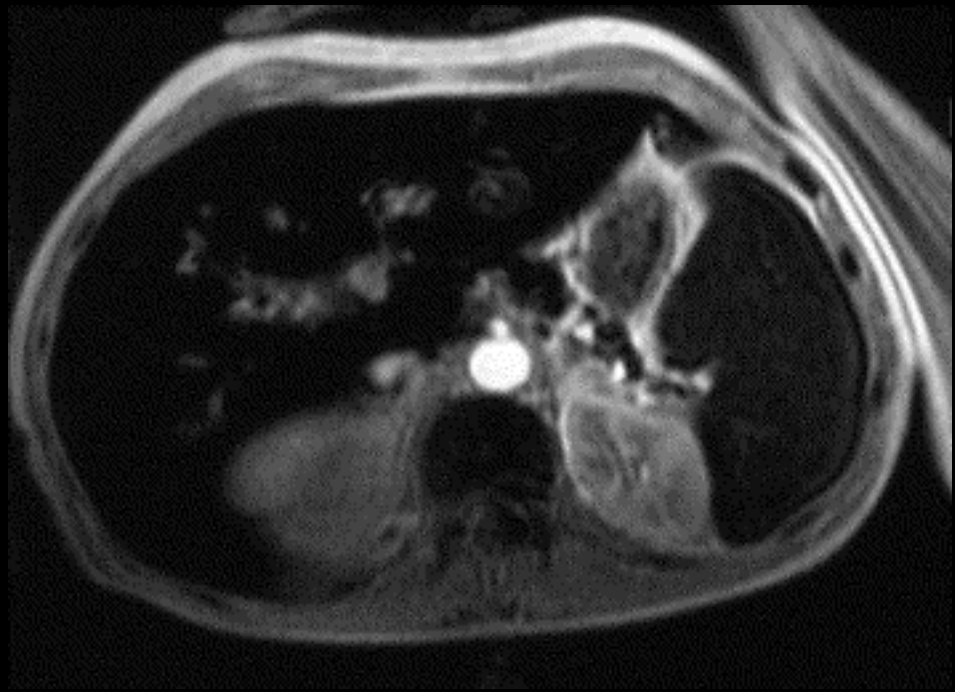
Treatment: Hypertransfusion

Reduces the extent of marrow expansion

Iron overload and hyperuricemia are potential consequences

High serum iron levels → synovium and articular cartilage abnormalities

Occasionally chondrocalcinosis



Tyler PA, et al. The Radiological Appearances of Thalassaemia. *Clinical Radiology* 2006.

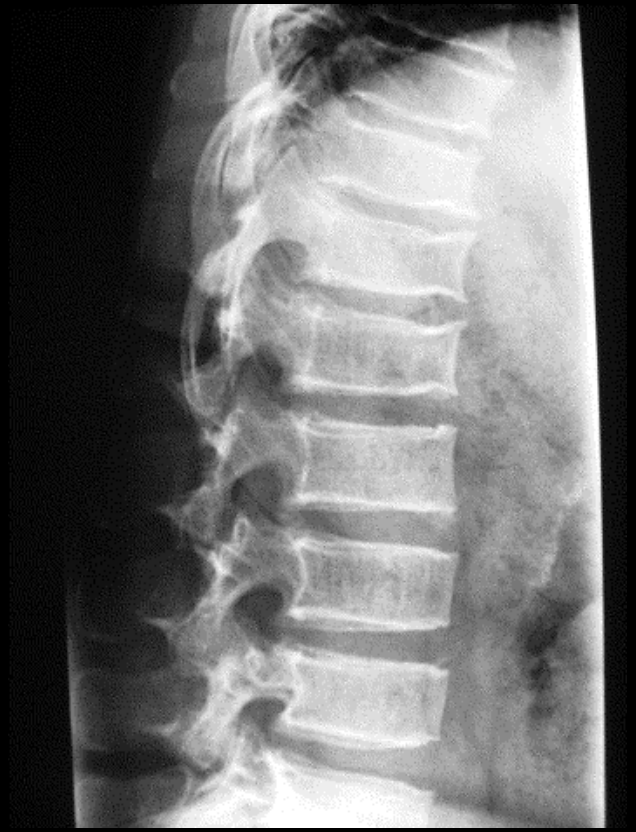
Treatment: Iron-chelation therapy- Deferoxamine

Dysplasia in ~⅓ of patients affecting growing long bones

Toxic effects on bone from ?zinc chelation, antiproliferative effect

Impaired metaphyseal collagen synthesis and inhibition of osteoblasts → growth retardation

Metaphyseal splaying, irregular widened physis



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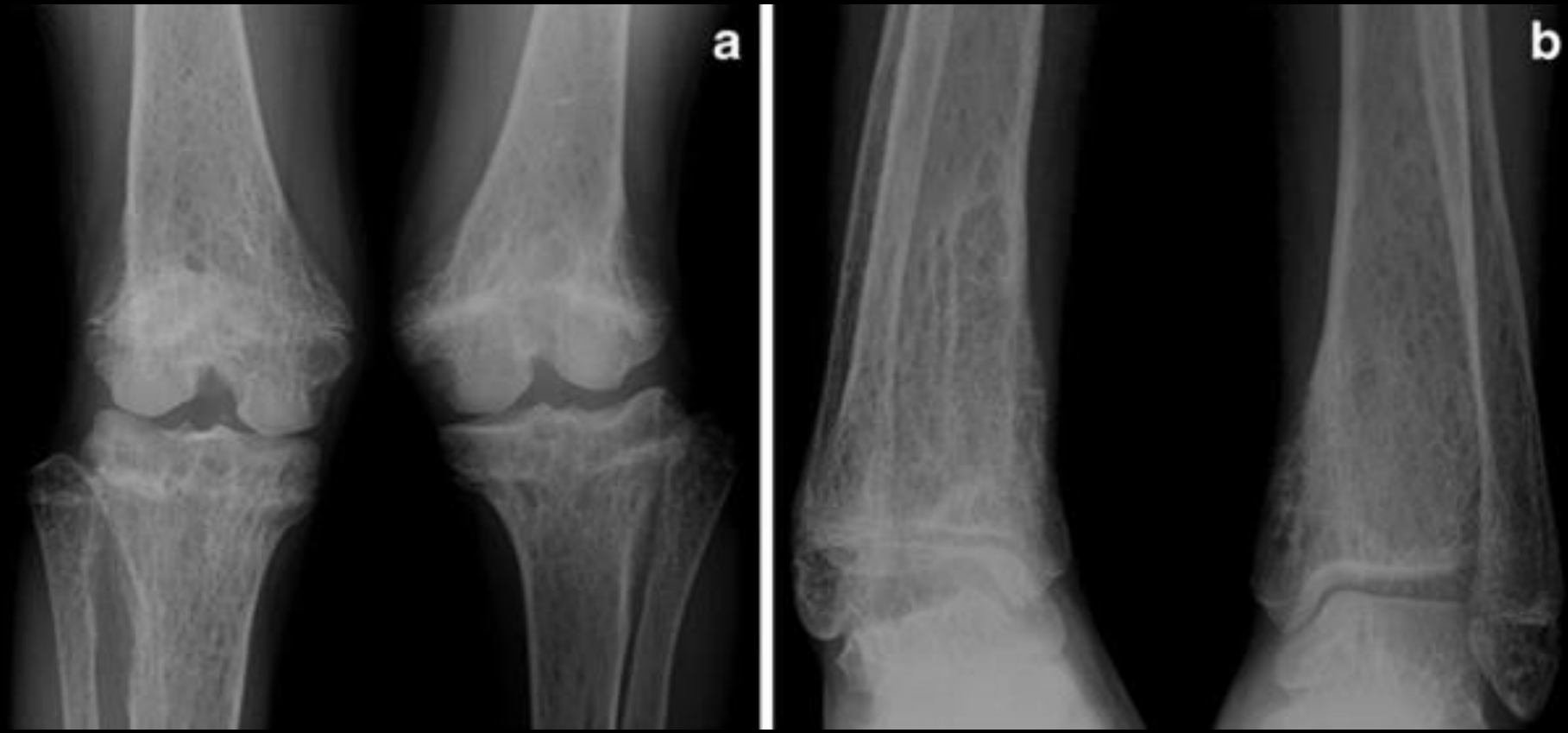

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