Mastocytosis

- Excessive accumulation of mast cells in one or more organs.
- According to the World Health Organization classification, three clinical entities fall under the mastocytosis umbrella:
  - Cutaneous mastocytosis,
  - Systemic mastocytosis (with or without cutaneous manifestations)
  - Mast cell sarcoma. This article deals primarily with systemic mastocytosis.
- Indolent mastocytosis
- Normal life expectancy

Primary radiographic findings

- 2 distinct appearances of osseous structures
  - Osteosclerosis
  - Osteoporosis
- Secondary radiographic findings
  - Pathologic fracture, particularly in spine
- Low sensitivity and specificity for detection of systemic mastocytosis

Bone involvement in mastocytosis

- Either lytic, sclerotic or mixed
- Diffuse involvement tends to be more common
- Usually, the radiographic appearance is that of sclerosis involving primarily the axial skeleton and the ends of the long bones.
- In some patients, there is generalized osteoporosis with the risk of pathological fractures.

Non skeletal CT findings in 19% of patients in one study

- Hepatosplenomegaly
- Retroperitoneal lymphadenopathy
- Periportal lymphadenopathy
- Mesenteric lymphadenopathy
- Thickening of omentum and mesentery
- Ascites
- Less common findings
  - Hepatofugal portal venous flow
  - Budd-Chiari syndrome
  - Cavernous transformation of portal vein
  - Ovarian mass

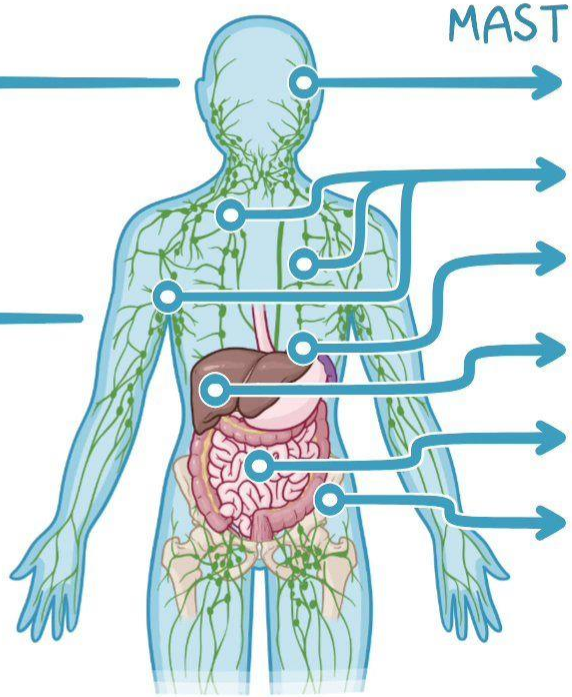
MASTOCYTOSIS
(CLONAL MAST CELL DISEASE)

↑↑↑ NUMBERS of INCORRECTLY FUNCTIONING MAST CELLS

2 CATEGORIES:

CUTANEOUS MASTOCYTOSIS

SYSTEMIC MASTOCYTOSIS



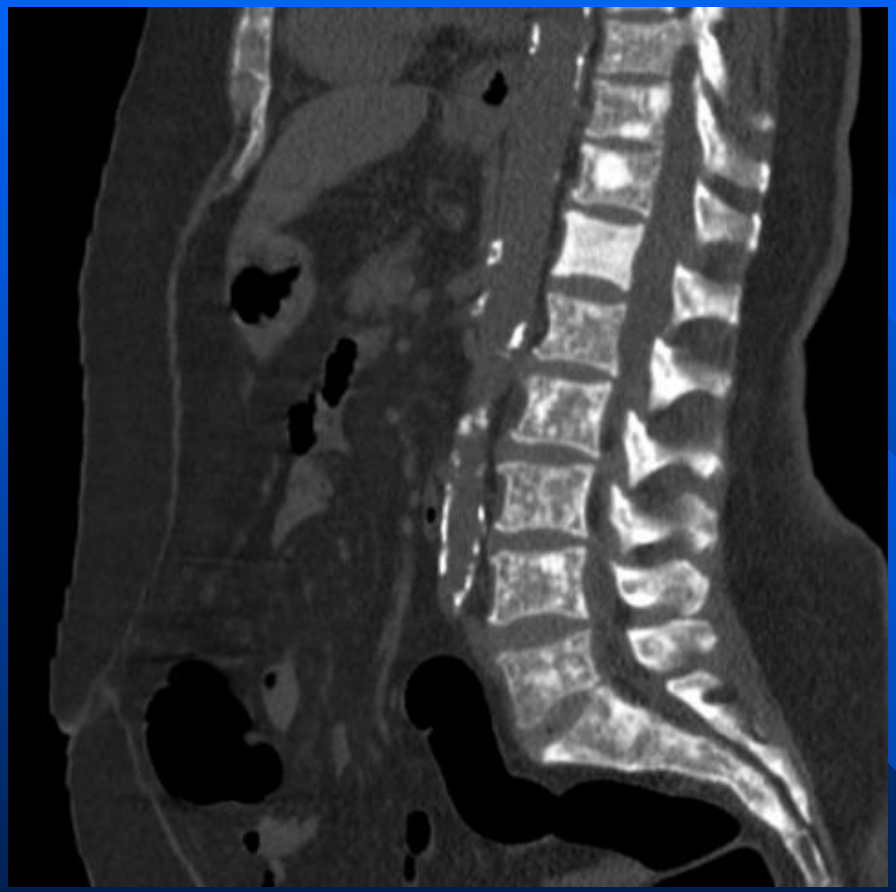
MAST CELLS ACCUMULATE in:

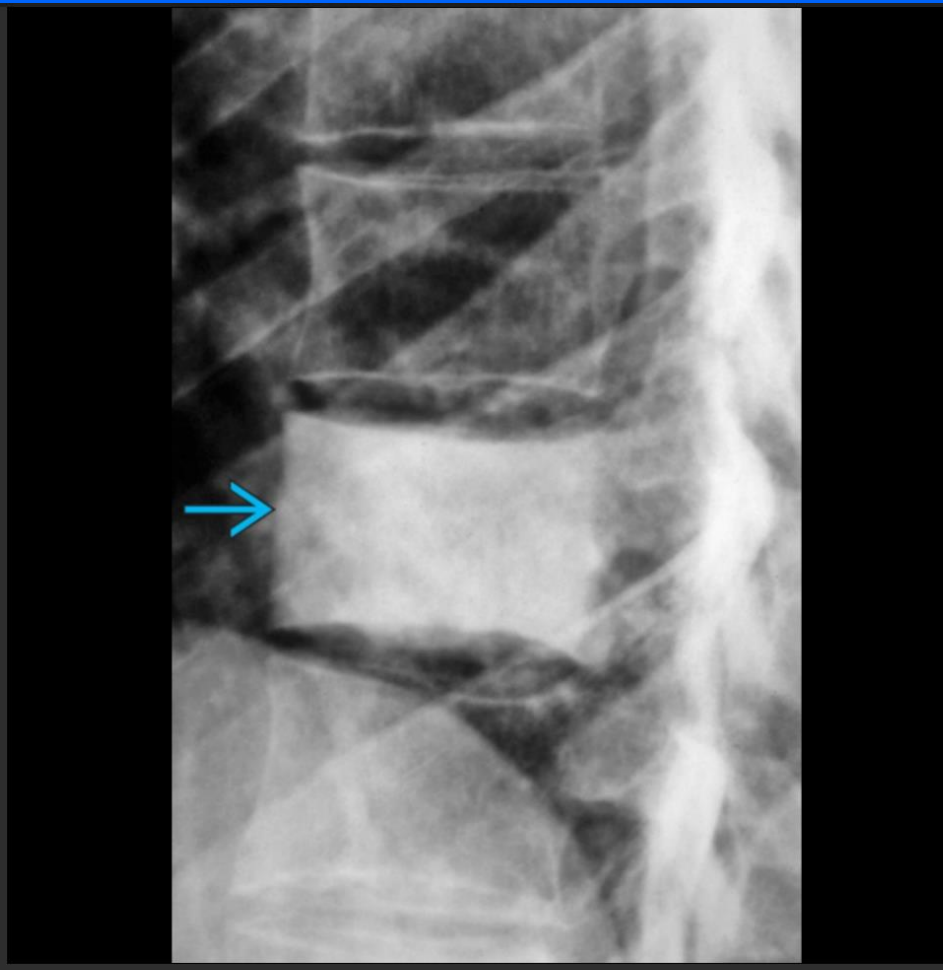
- SKIN
- LYMPH NODES
- SPLEEN
- LIVER
- GI TRACT
- BONE MARROW

Mastocytosis

Systemic Mastocytosis

focal spots of sclerosis on a background of diffuse osteopenia





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Lateral view of the thoracic spine shows a classic ivory vertebra → with dense bone replacing the entire vertebral body with no change in size. Focal sclerosis, such as this, is one appearance of mastocytosis.

View Full Screen Image

AP radiograph shows diffuse and severe osteoporosis with multiple fractures. The appearance is nonspecific but was biopsy-proven mastocytosis. It is unusual for childhood mastocytosis to have osseous abnormalities.