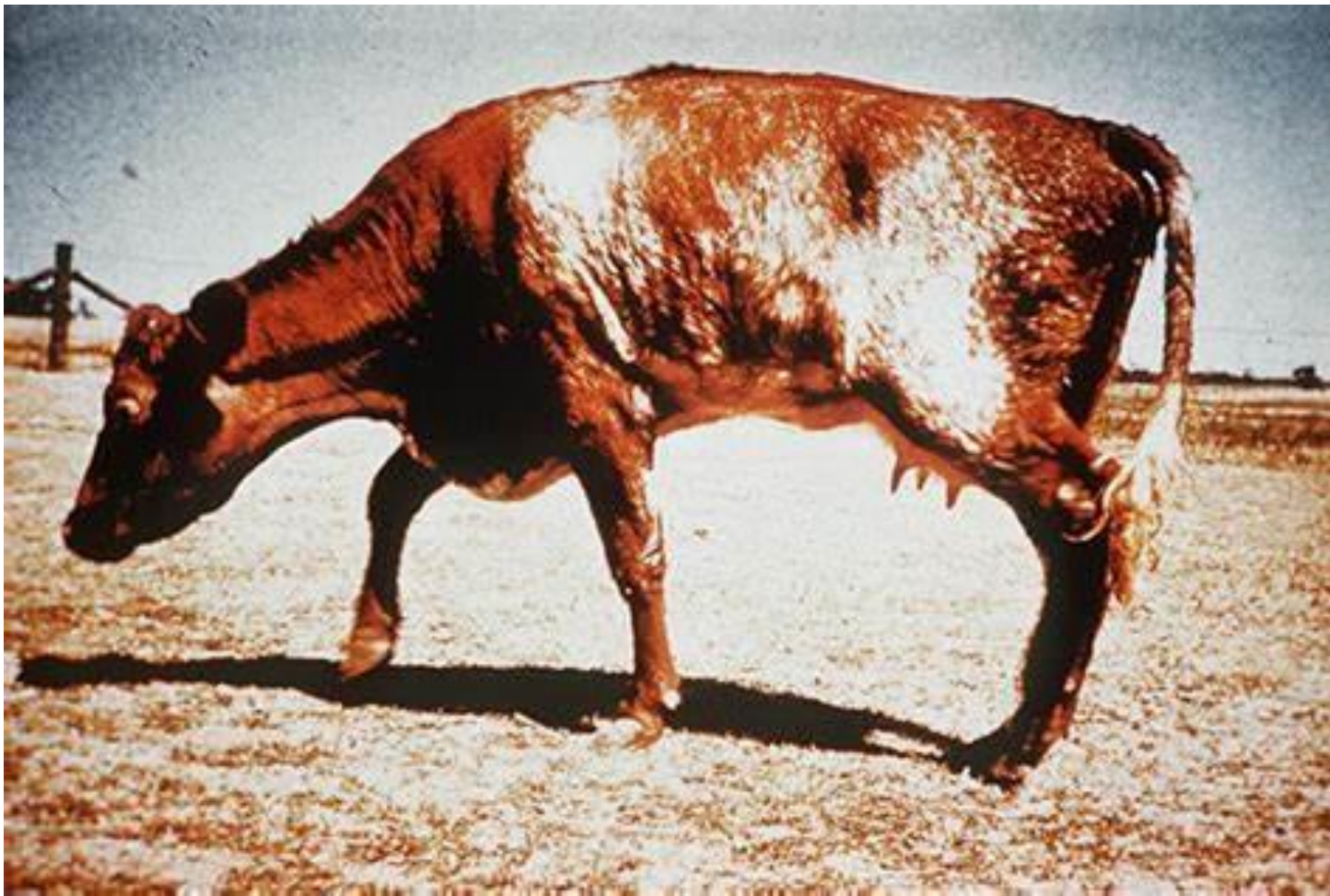


Osteomalacia

Osteomalacia most commonly affects horses, cattle, and pigs.

Pregnant and lactating animals are more prone.

Lameness and pathological fracture are common clinical findings.



Osteomalacia in cattle

Etiology/ Cause of Osteomalacia

- a. Vitamin D deficiency

b. Ca:P ratio 1 : 2.

Pathogenesis

a. Softening of mature bone due to extensive resorption and failure of mineralization of newly formed matrix.

b. There is no enlargement at the ends of long bones but spontaneous fracture.

c. Osteodystrophia fibrosa: - excessive resorption of bones and replacement by connective tissue.

d. Secondary hyperthyroidism resulting in swelling of mandible, maxilla & frontal bone (Big Head).

e. Spontaneous fracture of long bones & ribs.

Physical changes during Osteomalacia

1. Cattle: Epiphysitis, vertebral exostosis usually T2 and T12, L2 – L3.

2. Old bulls which will have more pressure during breeding – Fusing of vertebrae (spondylitis) occurs.

3. Horse also fusing of vertebrae degeneration of the intravertebral disc.

Symptoms of Osteomalacia

Cattle

a. First licking the soil, feces, and urine then the formation of body deformities.

b. Stunted, the head is bigger, perverted appetite, crooked legs, cracking sound in joints.

c. Lack of growth and production,

d. The tail will become soft and it can be coiled like rope,

e. Sterility,

f. Peculiar gait,

- g. Arched back in lumbar vertebrae,
- h. Recumbent due to pain or due to fracture of pelvic bones.
- i. Stiff limbs and swollen joints, and easy fracture in hip and ribs.

Horse

- a. Head is larger.
- b. Roof of the mouth bulging in oral cavity not able to close, like in maxillary paralysis.
- c. Difficult mastication
- d. Sometimes bloodstain in the tongue
- e. Narrowing of Nasal passage – snoring asphyxia

Diagnosis

a. Field Diagnosis:

On the basis of clinical symptoms.

b. Laboratory diagnosis:

X-ray – Horse: Extreme porosity of entire skeleton.

Blood chemistry:

- a. Ca:P normal for a long time in severe cases
- b. Increased alkaline phosphatase
- c. Serum inorganic Phosphate 1.3 to 1.6 mmol/L to 0.48 to 1.13 mmol/L.

c. Histopathology of bone biopsy.

Treatment of Osteomalacia

- Dicalcium Po₄ @ 3-4 times the daily requirement for 6 days, orally.

The slow reduction until 10th day with vit D @ 10,000 I.U / kg b.wt.