Osteomalacia

Characterized by failure to maintain bone matrix & reduce in mineral content of bone & softening of bone & deformity mainly in limbs, spines, thorax, pelvis, on X-ray pseudo fractures (looser's zone) is seen, general aches & sometimes fractures following minimal trauma.

Its associated with concurrent lack of vit D & imbalance of ca & phosphorous intake.

Most often observed in female at childbearing age with depleted ca due to repeated pregnancies with low intake of ca or in female with inadequate exposure for sun light or in elderly.

Rickets

Associated with malformation of bone because of deficient mineralization of organic matrix . vit D is specific for prevention of rickets.

Tetany

Extreme low level of ca in the blood & increase irritability of nerve fibers & cause muscle cramps.

OSTEOPENIA OF PREMATURITY —

Osteopenia of prematurely, also called metabolic bone disease of prematurely, is defined as postnatal bone mineralization that is less than intrauterine bone density at a comparable gestational age . Osteopenia occurs commonly in preterm infants; the incidence and severity increase with decreasing birth weight . Characteristic radiographic changes are seen in 55 percent of infants with birth weight <1000 g . High bone turnover appears to be more important than decreased bone formation in the pathogenesis of this disorder .

In addition to immaturity, the major predisposing factor is deficiency of Ca and P because of inadequate intake. Other risk factors include prolonged parenteral nutrition and medications that affect mineral metabolism, such as caffeine, loop diuretics, and corticosteroids . Decreased bone mineralization also occurs in infants who are small-for-gestational age or are born to diabetic mothers

Clinical features — Osteopenia typically develops in premature infants at three to 12 weeks of age. The condition is not clinically apparent and is detected by routine laboratory monitoring.