

HYPOCALCEMIA

I. PTH ABSENT

A. Hereditary hypoparathyroidism

1. Idiopathic hypoparathyroidism
2. DiGeorge syndrome
3. Autoimmune polyglandular deficiency

B. Acquired hypoparathyroidism

1. Parathyroidectomy
2. Transient hypoparathyroidism
3. Radiation – induced damage
4. Infiltration with Fe, Cu, CA
 - Diseases needing numerous blood transfusion (thalassemia)
 - Hemochromatosis
 - Wilson's disease

C. Hypomagnesemia

II. PTH INEFFECTIVE

A. Inadequate Vitamin D

1. ↓ Dietary intake or sunlight
2. Intestinal malabsorption

B. Impaired activation Vitamin D

1. Liver disease (↓ 25(OH) D)
 - Chronic active hepatitis, cirrhosis
 - Primary biliary cirrhosis
2. Chronic renal failure(↓1,25-(OH)₂-D)
 - Hyperphosphatemia
3. Anticonvulsants
4. Vitamin D dependant rickets type I

C. Target organ resistance to 1,25 (OH)₂D

1. Vitamin D dependant rickets type II

E. Target organ resistance to parathyroid hormone

1. Pseudohypoparathyroidism
2. Magnesium deficiency

III. PTH OVERWHELMED

A. Acute pancreatitis

B. Rapid / excessive skeletal mineralization

1. Hungry bones syndrome
2. Osteoblastic mets
3. Vit-D therapy

C. Hyperphosphatemia

1. IV Phosphorus
2. Phos. Containing enemas
3. Excessive oral phos.
4. Renal failure
5. Rhabdomyolysis
6. Rapid tumor lysis

D. Osteitis fibrosa post parathyroidectomy

IV. OTHER

A. Hypoalbuminemia

B. Toxic shock syndrome

C. MEDS

1. EDTA
2. Citrate (Multiple blood transfusion)
3. Calcitonin
4. Plicamycin
5. Foxcarnet
6. Glucagon
7. Radiocontrast dye
8. Fluoride intoxication
9. Biphosphanates