Table 2.3
Essential Haematology
Hoffbrand A
**Vitamin B12 deficiency**
- Western countries usually pernicious anaemia (autoimmune process → gastric mucosa → gastric atrophy. Achlorhydria and absent IF.
- ♀: ♂ = 1.6: 1
- Peak @ 60. ± Associated autoimmune diseases.
- N European, blue eyes, early greying, familial, blood group A
- ↑ incidence of gastric carcinoma
- 90% parietal cell Ab → not specific (16 % women > 60)
- 50% type 1 Ab to IF → inhibit IF binding to B12
- 35% type 2 Ab to IF → inhibit ileal binding site
- IF Ab are specific for pernicious anaemia but only present in 50%
- Veganism, gastrectomy, small intestine lesion

**Folate deficiency**
- Poor dietary intake ± increased utilization or malabsorption
Clinical features

- Insidious onset
- S & S of anaemia
- Mild jaundice
- Glossitis (beefy red, sore tongue)
- Angular stomatitis
- Purpura (thrombocytopenia)
- Reversible melanin pigmentation
- Progressive neuropathy due to Vit B12 deficiency (peripheral nerves, posterior and lateral columns)
- Risk for neural tube defects
**Laboratory findings**
- Oval macrocytes
- Low reticulocyte count
- Leucocyte count and platelets may be reduced
- Hypersegmented nuclei
- Bone marrow: hypercellular, megaloblasts, giant metamyelocytes
- Raised unconjugated bilirubin
- Raised LDH

**Diagnosis**
- S-B12, s- and RBC-folate assays.
- Tests for the cause:
  - Diet history
  - B12 absorption ± IF
  - IF, parietal cell Ab
  - Endoscopy
  - Gastric function (acid, IF)
  - Anti-gliadin Ab
  - Duodenal biopsy
**Treatment**
- Don’t give folic acid alone unless B12 deficiency excluded → aggravate neuropathy
- Treat with appropriate vitamin
- Avoid blood transfusion if possible → circulatory overload
- Correct heart failure with diuretics and oral potassium

**Response**
- Symptoms improve after 24-48h → retik response on 2-3rd day → Hb rise by 2-3g/dl each fortnight → WCC and platelets normal by 10 days.
- Marrow normoblastic in 48h. Giant

**Prophylaxis**
- Total gastrectomy/ ileal resection → B12
- Pregnancy, chronic dialysis, haemolytic anaemias, myelofibrosis, prem babies → folic acid.