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Myeloma

- Malignant clonal proliferation of B cell derived plasma cells
  - Two third of cases urine contains Bence Jones protein
  - Characterised by presence of paraprotein in serum
- Features
  - Symptoms
    - Osteolytic bone lesions (due to increased osteoclast activity)
    - Anaemia, neutropenia, thrombocytopenia
    - Recurrent bacterial infections
    - Renal impairment (due to light chain deposition)
  - Diagnosis
    - Monoclonal protein band
    - Increased plasma cells on bone marrow biopsy
    - Evidence of end organ damage
  - Complications
    - Hypercalcaemia
    - Spinal cord compression
    - Hyperviscosity due to high levels of circulating paraprotein
    - Renal impairment
  - Median survival of 3 - 4 years
- Treatment
  - Supportive
    - Analgesia
    - Bisphosphanates
    - Rehydration and correction of anaemia
    - Broad spectrum antibiotics
  - Chemo
    - Chemo and steroids for elderly patients
    - Younger patients
      - More aggressive regimen
      - Autologous stem cell transplant - improves survival but not curative
      - Autogenic transplant can be curative but high risk of mortality
- Anaemia
  - Microcytic
    - Iron Deficiency
    - Thalasaemia
    - Chronic disease
  - Normocytic
    - Acute blood loss
    - Chronic disease
  - Macrocytic
    - Vit B12 Deficiency
    - Folate Deficiency
    - Alcohol Excess
    - Increased reticulocytes
  - B12 Deficiency
    - Found in meat and dairy products
    - Body supply for 4 years
    - Deficiency caused impaired DNA reducing RBC production
    - Causes
      - Dietary
      - Congenital
      - Malabsorptive
        - Crohn's
        - Pernicous Anaemia
          - Autoimmune atrophy of gastric mucosa
          - Autoantibodies against intrinsic factor
      - Alcohol