Ep 12 Pancytopenia and Bicytopenia - Dr Cheong May Anne

Approach to Pan-Cytopenia 0:00

- Common conditions: B12/folate deficiency, viral infections, systemic diseases (SLE, liver cirrhosis), drugs
- Bone marrow infiltration (produces a leukoerythroblastic picture): Malignancy, granulomatous diseases (TB)
- Red Flags: Acute leukemias (APML), Burkitt's lymphoma (multiple lymph nodes), hemophagocytic lymphohistiocytosis (HLH)
- Bicytopenia: **Consider TTP** (thrombocytopenia with hemolytic anemia), Evan syndrome (ITP with AIHA), Iron deficiency anemia with ITP
- Immediate haematology review if blasts/promyelocytes seen on PBF

What to look out for in the peripheral blood film? 4:13

- Many systems of built in safeguards where very abnormal red flag findings on FBC will be alerted to haematology team and primary team
- Even if promyelocytes are few, they must be taken seriously
- Fragmentation: Not all fragmentation = TTP; has to be taken in appropriate clinical context, can occur in situations of high shear stress (malfunctioning mechanical valves, AVF/ABVGs)

What drugs commonly cause myelosuppression? 10:55

- Many many drugs can cause myelosuppression – hence important to take a good drug history
- Common drugs: Thionamides, anti-epileptics, antibiotics, chemotherapy
- Variety of mechanisms of causing marrow dysfunction – has tempo and permanence may differ

When is a bone marrow biopsy indicated? 13:30

- When a bone marrow pathology is suspected
- When there is diagnostic uncertainty – especially when cytopenias are persistent
- But many cytopenias are secondary/reactive, hence often watchful waiting over time will demonstrate recovery

Myelodysplatic syndrome? 15:00

- Features: Usually in more elderly patients, presence of macrocytosis, may have low amounts of circulating blasts, dysplastic changes on PBF (hypergranulation of neutrophils, hyperlobated neutrophils)
- MDS manifests over a clinical spectrum with very variable prognosis
- Risk of leukemic transformation
- In patients who are lost to follow-up, to reinstate haematology follow up
- Caution about mislabeled presumptive MDS – always go back to the basis of diagnosis and check if a BMA has been done

Take Home Points 20:04

- Early escalation in presence of red flags – e.g. blasts, promyelocytes
- Always review the FBC in full especially in the context of pancytopenias (scroll down to the bottom to review other differential counts)
- When in doubt about other cell types, consider a haematology consult