MORPHOLOGY WORKSHOP 2025

HOSPITAL AMPANG

24 – 25 FEBRUARY 2025

Cases for Morphology Workshop – Basic (Day 1)

Case No.	Case
CASE 1	**35-year-old male came for health screening. FBC is normal.** **Describe the FBP findings.** Normochromic normocytic red cells. Neutrophils with 3-5 nuclei lobes. Normal circulating lymphocytes and platelets are plentiful. **Conclusion.** Normal picture
CASE 2	**34-year-old female complained of increasing lethargy. Hb 5.5 g/dL, Platelet 4 x 10^9/L, WCC 3 x 10^9/L.** **Describe the FBP findings.** Severe anaemia with polychromasia, increased spherocytes and fragmented cells, nRBC Thrombocytopenia Leukopenia. No circulating blasts **Diagnosis.** MAHA
CASE 3	**59-year-old lady presented with altered mental status for 1 day and easy bruising.** **Describe the FBP findings.** Severe anaemia with polychromasia, increased spherocytes and fragmented cells, nRBC Thrombocytopenia Leukopenia **Give your diagnosis.**

	Microangiopathic haemolytic anaemia likely thrombocytopenic thrombotic purpura
CASE 4	**32-year-old female with a reducing Hb trend.** **Describe the FBP findings.** Anaemia, polychromasia, spherocytes and nRBC Platelets adequate Left-shift **Diagnosis.** Autoimmune haemolytic anaemia (AIHA)
CASE 5	**35-year-old female complained of shortness of breath. At the Emergency room, her Hb was 8 g/dL.** **Describe the FBP findings.** Anaemia with polychromasia and ghost cell, helmet cells, fragments Platelet is adequate Normal with predominantly neutrophils **Diagnosis.** Hemolysis with oxidative changes.
CASE 6	**40-year-old female was admitted for symptomatic anaemia with cardiomyopathy.** **Describe the FBP findings.** Severe hypochromic microcytic anaemia and anisopoikilocytosis, target cells, pencil cells, schistocytes, nRBC and polychromatic cells **Diagnosis.** Thalassaemia with concomitant IDA
CASE 7	**37-year-old female with history of recurrent AIHA presented with symptomatic anaemia. Hb 7.5 g/dL, WCC 5 x10^9/L, Platelets 648 x10^9/L.** **Describe the FBP findings.** Polychromasia, macrocytes, spherocytes Howell-Jolly bodies, basophilic stippling, pappenheimer bodies, nRBC

	Thrombocytosis Neutrophils with toxic granulation **Give your diagnosis.** AIHA with post-splenectomy changes
CASE 8	**76-year-old male with diverticular disease. He presented with reduced effort tolerance.** **Describe the FBP findings.** Macrocytic anaemia Platelets adequate or mildly reduced Reduced white cells, hypersegmented neutrophils No obvious blast cells **Diagnosis.** B12/folate deficiency
CASE 9	**38-year-old male with history of splenectomy presented with anaemia.** **Describe the FBP findings.** Post-transfusion changes. Anaemia with dimorphic picture and background anisopoikilocytosis. Numerous target cells. Few Howell-Jolly bodies, nRBC Thrombocytosis Myelocytes and neutrophils with toxic granulation **Diagnosis.** Thalassaemia intermedia/major with post-splenectomy changes
CASE 10	**18-year-old male with anaemia. Hb 7.2 g/dL, Platelets 600 x10^9/L, WCC 10.5 x10^9/L.** **Describe the FBP findings.** Sickle cells Howell-Jolly and target cells Thrombocytosis **Diagnosis.**

	Sickle cell anaemia with hyposplenism
CASE 11	**27-year-old female, G3P2 at 18 weeks POG. She was investigated for anaemia and informs that she has had jaundice on and off for few years.** **Describe the FBP findings.** Anaemia, prominent spherocytosis with polychromasia, occasional nRBCs **Diagnosis.** Hereditary spherocytosis
CASE 12	**66-year-old man complained of blurring of vision. Hct 52% and Hb 18.0 g/dL** **Describe the FBP findings.** Packed red cell field, mainly normochromic normocytic cells. Increased neutrophils, no obvious blast cells or abnormal lymphoid cells. Platelets increased, some large and giant forms seen **Give your diagnosis.** Polycythaemia Vera
CASE 13	**44-year-old man with underlying ?thalassaemia.** **Describe the FBP findings.** Anaemia with anisopoikilocytosis.Presence of ovalocytes, some polychromatic cells, stomatocytes, target cells and Howell-Jolly bodies, nRBC Platelets reduced Reactive lymphocytes **Diagnosis.** Southeast Asian Ovalocytosis (SAO) with post-splenectomy changes and thalassaemia.
CASE 14	**18-year-old man presented with fever for 10 days associated with arthralgia, myalgia, skin rashes and lethargy.** **Describe the FBP findings.** Parasitized red cell enlarged

	Intracellular red cell inclusion bodies or ring trophozoites Trophozoites are ameoboid in shape Platelets reduced with predominantly neutrophils **Diagnosis.** Malaria infection likely Plasmodium Vivax
CASE 15	**10-year-old girl complained of vomiting and diarrhoea for few days. Hb 3.8 g/dL, Plt 232 x10^9/L, WBC 3.5 x10^9/L** **Describe the main FBP findings.** Severe anaemia with red cell agglutination, polychromasia and nucleated red cells Platelet is adequate Predominantly neutrophils. **Diagnosis.** Cold autoimmune haemolytic anaemia or cold agglutinin disease
CASE 16	**28-year-old male. Underlying CML for further assessment during clinic follow-up.** **Describe the features seen in this FBP.** Mild anaemia. Normochromic normocytic RBCs. Rare nRBCs seen. Leukocytosis with granulocytes of all stages of maturation, with basophilia and eosinophilia. Bimodal peak of neutrophils and myelocytes. Few blast cells seen. Increased with some platelet clumps seen. **Diagnosis** Myeloproliferative neoplasm, likely CML in chronic phase.
CASE 17	**75-year-old female with an incidental finding of WCC of 37 x 10^9/L.** **Describe the FBP findings.** Leukocytosis Abnormal lymphoid cells with prominent single nuclei Thrombocytopenia Neutropenia

	Diagnosis. Lymphoproliferative disorder (LPD)
CASE 18	**28-year-old female with gingival bleeding.** **Describe the FBP findings.** Abnormal white cell population; blasts or abnormal promyelocytes bilobed/folded nuclei, poorly granulated and occasional myeloid granulation. No faggot cells. Neutropenia, myelocytes, metamyelocytes nRBC **Diagnosis.** Variant APML
CASE 19	**30-year-old female with fever and lethargy for 1 week.** **Describe the FBP findings.** Abnormal white cell population; blasts or abnormal promyelocytes bilobed/folded nuclei and occasional myeloid granulation and 'dirty cytoplasm' heavy eosinophilic granulation. Occasional Faggot cells seen with stacking of Auer rods in the cytoplasm. Neutropenia nRBC **Diagnosis.** Classical APML
CASE 20	**63-year-old male presented with lethargy and loss of weight. Hb 5 g/dL, WCC 70 x10^9/L, Platelets 67 x10^9/L.** **Describe the FBP findings.** Leukocytosis with myeloblasts some promonocytes and monoblasts, abundant basophilic cytoplasm and prominent nucleoli. Neutrophils present Platelets are reduced Dimorphic red cells, stomatocytes **Diagnosis.** Acute myeloid leukaemia

CASE 21	**6-year-old boy presented with intermittent fever and tonsillitis.** **Describe the FBP findings.** Anaemia with hypochromic microcytic red cells. Marked leukocytosis Abnormal lymphoid cells with irregular nuclear outline, some with prominent nucleoli Hardly any platelets seen **Diagnosis.** Acute Lymphoblastic Leukaemia with concomitant IDA
CASE 22	**57-year-old man presented with bony pain with reduced sensation and parasthesia over mandible area.** **Describe the FBP findings.** Blast cells moderate to large in size with high N:C ratio, round nucleus with prominent nucleoli, basophilic cytoplasm and some with cytoplasmic vacuoles Platelets reduced, moderate anaemia **Diagnosis.** Burkitt Leukaemia/Lymphoma
CASE 23	**54-year-old lady was referred for persistent high white cell count.** **Describe the FBP findings.** Monocytosis, dysplastic neutrophils and some circulating blast cells Leucoerythroblastic picture **Diagnosis** Myeloproliferative/Myelodysplastic syndrome (MPN/MDS) likely CMMoL-2
CASE 24	**49-year-old lady presented with fever, coffee ground vomitus and gum bleed. FBP was sent to investigate thrombocytopenia.** **Describe the FBP findings.** Increase in plasma cells and lymphoplasmacytoid

	Thrombocytopenia **Diagnosis.** Plasma cell neoplasm; Plasma cell leukaemia, Lymphoplasmacytic lymphoma
CASE 25	**23-year-old male. Treated as Dengue fever several times during childhood.** **Describe the features seen in this FBP.** Hb adequate, normochromic normocytic RBCs. Occasional elliptocytes and rare nRBCs Low, <10 per hpf view. Large platelets no clumping. Granularity of platelets are markedly reduced. Predominantly neutrophils. Activated lymphocytes seen. No definite blasts seen. **Impression.** Features of persistent true thrombocytopenia. DDx: Chronic ITP **Gray platelet syndrome** Bone marrow failure syndromes eg: aplastic anaemia, myelodysplastic syndrome
CASE 26	**67-year-old male. History of Essential Thrombocytosis on Anagrelide with underlying DM. FBP was sent to ascertain the cause of anaemia.** **Describe the features seen in this FBP.** Hb reduced. Marked anisopoikilocytosis with microcytic background. Prominent tear drop cells. Elliptocytes and occasional nucleated RBCs Adequate >30/hpf. Platelet anisocytosis, large and giant platelets are seen Predominantly neutrophils. Reactive monocytes. Left-shifted, rare myelocytes and circulating blasts seen **Impression.** In correlation with clinical history, features are suggestive of Post-ET Myelofibrosis
CASE 27	**58-year-old man with history of alcoholism. Investigated for anaemia. Hb: 8.2g/dL, Platelet: 62 x10^9/L WBC: 9.0 x10^9/L** **Describe the main FBP findings.**

	Moderate anaemia with severe anisopoikilocytosis. Numerous acanthocytes with irregularly contracted cells. Some spherocytes and nRBC seen. Thrombocytopenia, rare giant platelets, no platelet clumping. Neutrophil predominant. **Impression.** Features are suggestive of underlying liver disease
CASE 28	**59-year-old lady came for follow-up. She complains of gum bleeding for past 1/52.** **Describe the main FBP findings.** Normochromic normocytic RBC, Howell-Jolly bodies, ecchinocytes, rare nRBC and polychromatic cells. Markedly reduced, thrombocytopenia, large platelets, no platelet clumping Neutrophil predominant, no blasts or abnormal lymphoid cells. **Impression.** Suggestive of Refractory ITP with post-splenectomy changes No overt hemolysis, dysplasia, leukaemia or lymphomatous process.
CASE 29	**34-year-old female with history of low platelets for a few years.** **Describe the FBP findings.** Thrombocytopenia Platelet anisocytosis with large platelets seen Neutrophils with Dohle-like inclusions **Diagnosis.** May-Hegglin anomaly
CASE 30	**30-year-old male, known HIV presented with pancytopenia.** **Describe the FBP findings.** Intracellular inclusions within neutrophils or microorganism Leukopenia with neutropenia and lymphopenia, left-shifted Anemia with anisopoikilocytosis Thrombocytopenia

	Diagnosis. Infection by microorganism (fungal) eg: Histoplasma capsulatum