Metro North Hospital and Health Service Putting people first

General Practice Liaison Officer Program

GP Information Session - Haematology

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phn BRISBANE NORTH
An Australian Government Initiative

Queensland Government

Case 1 – KP

- 23 yo F
- Menorrhagia
- G2P2
- 2L PPH first pregnancy
- A distant relative is said to have had haemophilia and an aunt was diagnosed with von Willebrands

KP – Investigations?

A. Coagulation profile
B. Von Willebrand Assay
C. Platelet function testing
D. All of the above

Bleeding Disorders Interpretation

- Prolongation of clotting times requires further investigation to determine for factor deficiency or other causes such as an inhibitor
- Von Willebrand screen should have laboratory interpretation / comment
- Platelet function testing is very sensitive to drugs (aspirin, NSAIDs)

Bleeding Disorders Approach

- History
  - Haemostatic challenges with surgery including dental extraction, tonsillectomy
- Family history
- Coagulation profile
- Von Willebrand screen
- Platelet function testing

Bleeding Disorders

- Red flag
  - Pregnancy

Bleeding Disorders

- Essential information
  - Family history
  - Bleeding history
  - Results of coagulation screen and von Willebrand assay

Haemoglobinopathies

- Red flag
  - Pregnancy

Haemoglobinopathies

- Essential information
  - Personal history
  - Family history
  - FBC
  - Iron studies, B12, folate
  - Hb studies
  - ELFT

Case 2 – JS

- 85 yo M
- Has presented with severe symptomatic anaemia
  - Urgent transfusion in the emergency department
- Background normocytic anaemia and chronic kidney disease (CKD IIIa)

JS – Investigations?

A. FBC and Film
B. Iron Studies
C. Reticulocyte count
D. All of the above

JS – Management

A. Refer to haematology
B. Refer to renal
C. Refer to gastroenterology
D. All of the above

Chronic Anaemia Approach

- MCV
- Reticulocyte count
- Film features
- Comorbid conditions and drug conditions
- Haematinics / Inflammatory markers
- ELFT
- Serum electrophoresis
- TFT

Chronic Anaemia Pitfalls

- Can be multifactorial
- Iron studies can be difficult to interpret in the setting of CKD and inflammation
  - Generally if ferritin < 100 in these settings, functional iron deficiency is likely

Chronic Anaemia

- Red flags
  - Haemolytic anaemia
  - Pancytopenia
  - Abnormal blood film
  - New unexplained back pain
  - Hypercalcaemia
  - B symptoms: Weight loss, fevers, night sweats
  - Splenomegaly / lymphadenopathy
  - Paraprotein / abnormal SFLC

Chronic Anaemia

- Essential information:
  - FBC, reticulocyte count
  - Iron studies, B12, folate
  - TFT
  - ELFT including LDH
  - Evidence that non-haematological cause excluded

Chronic Anaemia

- Additional information
  - Haemolysis screen
  - SEPP/SFLC
  - CRP
  - Coag
  - T/f history
  - Comorbid CKD
  - Prior B12/iron

Neutropenia

- Red flags
  - Circulating blasts
  - Abnormal lymphoid cells
  - Low fibrinogen
  - Pancytopenia

Neutropenia

- Essential information:
  - Serial FBC
  - ELFT including LDH
  - Drug history
- Additional information
  - Flow cytometry
  - Autoimmune screen
  - Coagulation profile

Pancytopenia

- Red flags
  - Unwell / febrile
  - Severe pancytopenia (Hb <80, Plt < 30, Nphil <0.5)
  - DIC
  - Circulating blasts, leucoerythroblastic
  - Elevated LDH

Pancytopenia

- Essential information:
  - Family history of BM failure
  - Serial FBC
  - Blood film
  - ELFT including LDH
- Additional information:
  - Reticulocyte count
  - B12 and folate
  - Iron studies

Case 3 – NL

- 45 yo M
- Smoker, obese, “thick neck”
- Exertional angina
- Daytime somnolence and snoring
- Hb 165-180
- Mildly plethoric

NL – Next step?

A. Repeat FBC with JAK2 mutation analysis
B. Advise to stop smoking
C. Start aspirin
D. All of the above

Polycythaemia Approach

- FBC
- Repeat FBC
- JAK2 mutation analysis
- Serum erythropoietin
- Other causes

Polycythaemia Pitfalls

- JAK2 V617F mutation in >= 97% true Polycythaemia vera
- Other cases JAK2 exon 12 mutation
- Secondary polycythaemia has many causes
  - Symptoms
- Secondary polycythaemia does not require venesection as a treatment strategy

Polycythaemia

- Red flags
  - JAK2 mutation V617F detected
  - Suppressed erythropoietin
  - Unexplained pruritus
  - Amaurosis fugax or TIA or thrombosis
  - Symptoms of hyperviscosity

Polycythaemia

- Essential information
  - Serial FBC
  - ELFT
  - Smoking history

Polycythaemia

- Additional information
  - JAK2 V617F (+/- JAK2 exon 12) testing
  - Erythropoietin level
  - USS Abdomen (hepatic / renal)
  - CXR
  - BMI
  - OSA history
  - Testosterone replacement

Raised ESR

- Red flags
  - Haemolytic anaemia
  - Pancytopenia
  - Abnormal blood film
  - New unexplained back pain
  - Hypercalcaemia
  - B symptoms: Weight loss, fever, night sweats
  - Splenomegaly / lymphadenopathy
  - SEPP / SFLC

Raised ESR

- Essential information
  - FBC
  - ESR serial
  - ELFT
  - SFLC/SEPP and B2 microglobulin
  - Immunoglobulin levels
- Additional information
  - CXR, USS and CT if done

Thrombophilia

- Red flags
  - Pregnancy
  - Antiphospholipid syndrome
  - SLE
  - Malignancy
  - Weight loss

Thrombophilia

- Essential information
  - * Personal history of VTE
  - Family history of VTE
  - FBC
- Additional information
  - Smoking history
  - History of active malignancy
  - Lupus anticoagulant and antiphospholipid antibody testing if unprovoked VTE

Thrombocytosis

- Red flags
  - Normal ESR/CRP
  - Normal iron
  - TIA or amaurosis fugax
  - Aquagenic pruritus

Thrombocytosis

- Essential information
  - Serial FBC
  - Iron studies
  - CRP / ESR
  - JAK2 V617F mutation testing
- Additional information
  - CALR testing (if JAK2 negative)
  - MPL testing (if CALR negative)

Haematology Referral Guidelines

- https://metronorth.health.qld.gov.au/specialist_service/refer-your-patient/haematology

Urgent Cases

- Discuss with on call Haematology Registrar (in hours) or on call Consultant (after hours)
- Contact through RBWH switch 3646 8111 or TPCH switch 3139 4000
- Urgent cases accepted via phone must be accompanied with a written referral and a copy faxed immediately to the Central Patient Intake Unit: 1300 364 952