Case 2.4

12 year old boy fell while playing in the garden, landing on his right knee and subsequently developed very painful swelling of his right knee, progressive worsening, unable to weight bear.

On examination, patient afebrile, vitals stable, there is a large knee effusion with restricted ROM due to pain.

What is the most important investigation you would do next?
1. Knee X-ray
2. Knee aspiration
3. Knee arthroscopy
4. Coagulation studies
5. Septic workup

Subsequently, diagnostic knee aspiration was done and bloody fluid aspirated from knee joint. Coagulation studies were done and noted PT normal but aPTT was prolonged.

1. Haemophilia
2. vWD disease
3. Factor 8 deficiency
4. Prekallikrein deficiency
5. Dengue fever
6. Lupus anticoagulant

What is the mode of inheritance of Haemophilia?
1. Autosomal dominant
2. Autosomal recessive
3. X-linked dominant
4. X-linked recessive

What is the most commonly involved joint?
1. Knee
2. Elbow
3. Ankle
4. Shoulders
5. 1st toe MTPJ

72 year old lady who lives in Pacific Nursing Home because of limited mobility is admitted to Singapore General Hospital A&E department with severe headache and left-sided weakness starting 1 hour ago. Referred by resident physician for suspected acute stroke. Past Medical History of COPD, HTN and PVD. Apparently other residents from Pacific Nursing Home have been affected by food poisoning and another patient admitted for acute kidney injury secondary to dehydration.

On examination, her BP is 155/90 mmHg, HR 80 bpm, regular in rate and rhythm. T 37.9 degrees. On examination HS1S2, nil murmurs L clear, A SNT, noted purpuric rash affecting forearms and petechiae over upper chest. Left sided hemiparesis with equivocal Babinski on neurological examination.

Investigations
Hb 9.8 WBC 12.8 Platelets 52
Na 137 K 5.2 (moderately hemolyzed) Cr 187 (baseline Cr unknown)
CT Brain nil evidence of acute territorial infarct or ICH or intracranial masses

Blood films noted the presence of schistocytes

Which of the following is the most useful intervention?
1. FFP and CSP transfusion
2. Urgent Neuro referral, admit to Acute Stroke Unit for urgent thrombolysis
3. IV piperacillin and tazobactam
4. IV corticosteroids
5. Plasmapheresis

What other features of suggestive of HUS/TTP? (T/F)
1. schistocytes on peripheral blood film
2. unexplained thrombocytopenia
3. negative Coombs test
4. normal coagulation studies
5. normal fibrinogen
6. reduced serum levels of ADAMTS13*
7. raised serum LDH
8. raised indirect serum bilirubin
9. reduced haptoglobin
10. raised serum creatinine

All true

A 72 year old woman was started on prophylactic SC clexane postoperatively after right knee TKR but developed a large erythematous raised area around the heparin injection site arm that progressively enlarged the following day, developing a black necrotic core. Repeat bloods noted platelet 32. What is the next most appropriate line of management?

1. Stop heparin and commence warfarin
2. Stop heparin and immediate platelet transfusion
3. Stop heparin and observe
4. Stop heparin and switch to unfractionated heparin infusion
5. **Stop heparin and switch to NOAC**

What clinical features are least likely to increase the clinical suspicion of heparin induced thrombocytopenia?

1. Thrombosis, skin lesions, acute reaction after IV UFH
2. Platelet nadir $\geq$ 20k with > 50% drop from baseline
3. Clinical features occurring 5-10 days after administration of heparin
4. Clinical features occurring $\leq$ 1 day after administration of heparin
5. **Clinical features occurring despite discontinuation of heparin**

On further evaluation, patient noted to have right lower limb deep vein thrombosis and underwent anticoagulation. Years later, she is readmitted for left knee TKR, referred by Orthopaedic Surgery to Haematology for advice on postoperative DVT prophylaxis preoperatively. How would you advise the Orthopaedic Consultant.

1. Use of NOAC
2. Use of warfarin
3. Use of SC clexane
4. **Blood tests then possibly use of SC Clexane**
5. Blood tests then possible use of unfractionated heparin

Addenum

A 62 year old Chinese gentleman has been referred from National Health Screening after review of routine screening blood tests. His FBC noted Hb 9.8 MCV 72.1 MCH 22 MCHC 26 WBC 8.1 Plt 366. He is otherwise asymptomatic and has no significant past medical history or visits to the healthcare before. What is the most likely cause of the above abnormalities?

1. Thalassemia
2. Anaemia of chronic disease
3. **Fe deficiency anaemia**
4. Sideroblastic anaemia
5. Myelodysplastic syndrome

After discussing the most likely cause of the abnormalities in his blood test. What is the most important investigation you would offer?

1. Tumor markers
2. Fe studies
3. **Colonoscopy +/- OGD**
4. Stool fecal occult blood test
5. Computer Tomography of the Abdomen and Pelvis