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POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION (OLD FORMAT)
AUGUST 2019

Date: 26th August 2019 **Time:** 1.00 p.m. – 4.00 p.m.

PAPER I

Answer any five (05) questions.
Answer each question in a separate book.

1. During an audit of antibody positive cases of your hospital, it reveals that there is significant percentage of ANC mothers with Rh D alloimmunization.

   1.1. What information you would collect in view of taking corrective and preventive actions? (40 marks)

   1.2. List out the methods available for assessing feto-maternal haemorrhage to provide appropriate anti-D prophylaxis. (20 marks)

   1.3. Write down the management plan for a 28-year-old female P2C1 with a POA of 14 weeks, whose routine antenatal screening reveals the presence of anti-K antibody. (40 marks)

2. A 70-year-old female underwent a coronary artery bypass graft surgery 6 days back. Now she has a platelet count of $45x10^9/l$. Her coagulation screen and full blood count are otherwise normal. The blood film confirms the thrombocytopenia is genuine with no other abnormalities seen and review indicates her pre-operative platelet count was normal.

   2.1. List the differential diagnosis giving your reasons. (20 marks)

   2.2. Briefly describe any further history or investigations you would undertake to help establish the diagnosis. (30 marks)

   2.3. What is the most probable diagnosis? Describe the pathogenesis of the condition you mentioned. (30 marks)

   2.4. How should this patient be further managed? (20 marks)

Contd...../2-

3. A blood sample sent to the hospital blood bank from a 36-year-old male patient with a history of intermittent fever was found to be positive for direct agglutination test (DAT).

   3.1. What are the causes for a positive DAT? (20 marks)

   3.2. What further features in the history and laboratory investigations would be appropriate to identify the underlying cause for this condition and to confirm the diagnosis? (50 marks)

   3.3. How would you manage the provision of red cell support for this patient? (30 marks)

4. Discuss the pros and cons of leucoreducing cellular blood products for transfusion and the technologies currently available for performing this process. (100 marks)

5. Write short notes on:

   5.1. Provision of platelets for a patient with acute myeloid leukaemia suspected of having platelet refractoriness. (40 marks)

   5.2. Management of Von Willebrand disease in a patient scheduled for elective surgery. (30 marks)

   5.3. Maximum Surgical Blood Ordering Schedule. (30 marks)

6.

   6.1. The cluster centre that you are working in, has adequate stocks of red cells and platelets. The rainy season is to begin and you are aware that the weather can be really bad.
   How would you get ready to face this situation? (50 marks)

   6.2. The weather becomes worse than you expected and floods and landslides start occurring. Mass casualties are brought in while there are hardly any donors.
   How would you handle this situation? (50 marks)

Maths copy.

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MD (TRANSFUSION MEDICINE) EXAMINATION (OLD FORMAT)
AUGUST 2019

Date: 27th August 2019 **Time:** 9.00 a.m. – 12.00 noon

PAPER II

Answer any five (05) questions.
Answer each question in a separate book.

1. Difficulty in identifying and selecting red blood cell units for transfusion depends largely on clinical significance of allo antibody/ies.

   1.1. Describe the policy of selection of red cells for patients with red blood cell antibodies. (30 marks)

   1.2. A male patient who has Fy^a antibodies in his serum requires 2 units of red blood cells. The frequency of Fy^a positive people in the population is 66%. Calculate the approximate number of units that have to be typed to provide blood for this patient. (10 marks)

   1.3. If this patient has Fy^a, E and c antibodies with a E positive frequency of 30% and c positive frequency of 80% in the population, calculate the approximate number of units to be typed to select one unit blood for this patient. (10 marks)

   1.4. Provision of rare blood for patients is a challenge for blood transfusion services. Explain what is 'rare blood' and the risk of having a rare blood group for a patient? (25 marks)

   1.5. What measures would you take to ensure availability of blood for a patient with a rare blood group? (25 marks).

2. A 64-year old woman is scheduled for left hip replacement surgery in four weeks time. Her haemoglobin is 8.2g/dL. Discuss how you would identify the cause and manage her pre-operative anaemia in order to optimize her prior to surgery. (100 marks)

Contd...../2

3.

3.1. What are the indications for transfusion of fresh frozen plasma (FFP) and what evidence is there to support the use of this component? (20 marks)

3.2. What are the potential adverse effects associated with FFP and how can they be prevented? (30 marks)

3.3. Red cell transfusions are often undertaken in neonatal intensive care units. What are the precautions and interventions that should be undertaken for this group of patients when preparing red cells for exchange and 'top-up' red cell transfusions? (50 marks)

4.

4.1. Briefly describe the direct acting oral anticoagulants. (DOAC). (20 marks)

4.2. Outline how the hematology laboratory can help with the monitoring of these drugs. (30 marks)

4.3. Outline the management plan for a patient who presents for emergency surgery while taking DOAC. (50 marks)

5.

5.1. State what you understand by the term 'Non-Transfusion Dependent Thalassaemia'. (30 marks)

5.2. Discuss its aetiology, diagnosis, monitoring and management. (70 marks)

6.

6.1. List the investigations that you wish to see to confirm a diagnosis of aplastic anaemia in an adult who presented with symptoms of anaemia and thrombocytopenia. (10 marks)

6.2. Name the criteria that should be present to make a diagnosis of aplastic anaemia. (10 marks)

6.3. Outline briefly a management plan of a patient with severe aplastic anaemia. (10 marks)

6.4. Discuss the recommendations of supportive care that a transfusion physician could provide in the management of severe aplastic anaemia. (70 marks)