POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION
MARCH 2006

Date : 20th March 2006 Time :1.30 p.m.- 4.30 p.m.

PAPER I

Answer any 5 questions only.
Answer each question in a separate book.

1.

1.1. List the clinical features of a haemolytic transfusion reaction due to ABO incompatibility. (20 marks)

1.2. Describe the immunological basis for the symptoms and signs. (40 marks)

1.3. What laboratory investigations will you carry out when ABO incompatibility is suspected ? (20 marks)

1.4. What advice would you provide the patient's clinician regarding management ? (20 marks)

2.

2.1. What organisms are commonly implicated in transfusion transmitted bacterial infection from a unit of platelets ? (10 marks)

2.2. Describe the action you would take when a patient is suspected to have a bacterial infection following a platelet transfusion. (30 marks)

2.3. Outline the strategies for preventing bacterial infections due to platelet transfusions. (60 marks)

3.

3.1. Describe the strategies for prevention of D sensitization. (60 marks)

3.2. How would you ensure that D sensitization is prevented in females with childbearing potential when there is a shortage of D negative donors. (40 marks)

4.

4.1. Outline briefly the laboratory diagnosis of ß thelassaemia major. (40 marks)

4.2. Discuss the management of a newly diagnosed child with this condition. (60 marks)

5. Write short notes on –

5.1. Antibodies against high frequency red cell antigens. (30 marks)

5.2. Sequence specific primers in tissue typing (30 marks)

5.3. Viral inactivation of fresh frozen plasma (40 marks)

6.

6.1. Describe the pathogenesis and clinical features of TA-GVHD. (50 marks)

6.2. Which patient categories are at risk ? (10 marks)

6.3. What tests should be done to confirm diagnosis ? (20 marks)

6.4. How can you prevent TA-GVHD ? (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION
MARCH 2006

Date : 21st March 2006 Time :9.30 a.m.- 12.30 p.m.

PAPER II

Answer any five questions only.
Answer each question in a separate book.

1.

1.1. What are the adverse effects of blood donation ? (40 marks)

1.2. What action will you take to minimize these ? (60 marks)

2. What steps can you take to assure the high quality of platelets for Clinical use ? (100 marks)

3.

3.1. Discuss the strategies for increasing the number of blood donations collected in Sri Lanka. (50 marks)

3.2. What are the advantages and disadvantages of collecting blood in hospital based donor clinics compared to mobile units ? (50 marks)

4.

4.1. List the clinical indications for therapeutic plasma exchange. (20 marks)

4.2. How would you assess the suitability of a :

a) volunteer donor for plateletpheresis (25 marks)

b) patient for therapeutic plasma exchange (25 marks)

4.3 What complications may occur during apheresis and how would you manage these ? (30 marks)

5. Give an account of the criteria for selection and purchase of screening & panel red cells and AHG reagents used for pre transfusion testing. (100 marks)

6.

6.1. Define massive haemorrhage. (20 marks)

6.2. Draft a protocol for the management of major surgical / obstetric haemorrhage in a teaching hospital. (80 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION
MARCH 2007

Date : 19th March 2007 Time :1.00 p.m.- 4.00 p.m.

PAPER I

Answer any five questions..
Answer each question in a separate book.

1.

1.1. Describe the serological investigations of a patient with warm autoimmune haemolytic anaemia.

1.2. Discuss the transfusion management.

2.

2.1. Discuss the differential diagnosis of a newborn presenting with ecchymotic patches and a platelet count of 10×10^9 /L.

2.2. How do you investigate and manage a baby with suspected neonatal alloimmune thrombocytopenia ?

2.3. How do you manage future pregnancies of the mother.

3.

3.1. What are the different agents which cause transfusion transmitted hepatitis ?

3.2. Outline the characteristics of hepatitis B virus.

3.3. Discuss the serological findings of hepatitis B infection.

3.4. Describe the action you would take if a blood donor is found to be positive for hepatitis B screening test.

4. Describe the clinical and serological diagnosis of transfusion related acute lung injury (TRALI). What are their limitations ?

5. Write short notes on –

   5.1. Parvovirus B 19 in blood transfusion.

   5.2. T activation and it's clinical significance.

   5.3. Value of nuleic acid amplification technology (NAT)

6. The Director of the Blood Service wishes to redesign the request forms for ordering blood components.
   What are the essential questions that should be included in the forms and give your reasons.

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION
MARCH 2007

Date : 20th March 2007 Time :9.00 a.m.- 12.00 noon.

PAPER II

Answer any five questions..
Answer each question in a separate book.

1. Describe how you would establish a "Haemovigilance Scheme" in Sri Lanka.

2. Discuss the transfusion related problems associated with cardiac surgery.

3. Give an account on cord blood banking with emphasis on the rationale, donor recruitment, advantages and disadvantages.

4. Write short notes on -

   4.1. application of flow cytometry in transfusion medicine

   4.2. directed donations

   4.3. use of recombinant erythropoietin

5.

   5.1. Discuss the clinical indications for granulocyte transfusion.

   5.2. What are the granulocyte preparations available ?

   5.3. What pretransfusion tests are required ?

   5.4. Describe the adverse effects of granulocyte transfusion.

6.

6.1.

6.1.1. During blood donation what will make you to suspect an accidental arterial puncture.

6.1.2. What action you would take immediately ?

6.1.3. What post donation advise will you give the donor ?

6.1.4. What are the possible long term complications ?

6.2. How will you recognize and manage neurological complications following blood donation ?

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION
MARCH 2008

Date : 24th March 2008 Time :1.00 p.m.- 4.00 p.m.

PAPER I

Answer any five questions.
Answer each question in a separate book.

1. Prepare a set of guidelines *on* the appropriate use of platelets to be presented to the Hospital Transfusion Committee.

2. Discuss the suitable ABO groups and the relevant specifications for red cell and platelet transfusions for a patient undergoing bone marrow transplantation (pre, during and post transplant period).

3.
   3.1. Outline the important reasons for poor donor retention.
   3.2. How do you overcome these problems?

4. Write short notes on

   4.1. use of microplate techniques in red cell serology

   4.2. antibodies implicated in paroxysmal cold haemoglobinuria

   4.3. significance of a positive direct antiglobulin test (DA T)

5.
   5.1. A woman with a major degree placenta praevia is due to have a caesarean section and excessive bleeding is anticipated. Describe the arrangements you would make regarding provision of blood.

   5.2. During the operation the patient has a massive haemorrhage and how will you mange this situation.

6. A 55-year-old man becomes unwell, tachypnoeic, hypotensive and sweaty 15 minutes after commencement of a blood transfusion.
   Discuss the differential diagnosis and investigations of this patient.

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION
MARCH 2008

Date : 25th March 2008 Time : 9.00 a.m. - 12.00 noon

PAPER II

Answer any five questions.
Answer each question in a separate book.

1. Discuss the rationale for deferring donors in the following categories

   1.1. on medication

   1.2. history of cardiovascular disease

   1.3. known to have high blood pressure

   1.4. hazardous occupation

2.

   2.1. Outline the laboratory diagnosis of Sickle cell disease.

   2.2. Discuss the transfusion management of Sickle cell disease.

3. Write short notes

   3.1. West Nile virus

   3.2. Prion protein in blood products

   3.3. Use of intravenous immunoglobulin

4.

   4.1. Give 3 indications for the use of fresh frozen plasma (FFP)

   4.2. Give 3 non-infectious adverse effects of FFP

   4.3. What are your recommendations regarding ABO and Rh blood group compatibility for FFP transfusions ?

   4.4. How will you monitor the response to FFP transfusions.

5. Give an account of the key laboratory aspects of quality assurance in pre-transfusion testing *for* red cell transfusions.

6.

6.1. An Obstetric Registrar calls you regarding a 26-year-old female who is 32 weeks pregnant. She is group 0 Rh D Negative and has been admitted with antepartum haemorrhage. There have been no previous complications during pregnancy reported, the history however is vague. The partner is not available. What is your advice with regard to further investigations and administration of anti-D.

6.2. Briefly outline the guidelines for the administration of prophylactic anti-D in the antenatal period.

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION
MARCH 2009

Date : 23rd March 2009 Time :1.00 p.m.- 4.00 p.m.

PAPER I

Answer any five questions.
Answer each question in a separate book.

1.

1.1. Discuss the indications and rationale for irradiation of red cells and platelets. (40 marks)

1.2. How should irradiated products be labeled and how does irradiation Affect the shelf life of these products ? Give reasons. (30 marks)

1.3. What measures would you take to ensure that patients requiring irradiated products are clearly identified ? (30 marks)

2.

2.1. Discuss the steps that are taken to prevent post-transfusion hepatitis. (50 marks)

2.2. What should be the ideal way of investigating a possible case of post transfusion hepatitis in Sri Lanka ? (50 marks)

3. You are requested to draw up guidelines for assessment of fetomaternal haemorrhage for your hospital as the Transfusion Medicine Consultant in a major teaching hospital in Sri Lanka.

Assume that currently your hospital does not assess fetomaternal haemorrhage to decide on the dose of anti-D immunoglobulin.

(100 marks)

4. Write short notes on –

4..1. ABO blood group antigens. (35 marks)

4.2. Management of needle prick injury. (30 marks)

4.3. Use of leucocyte reduced transfusions. (35 marks)

5. Discuss the management of massive haemorrhage during cardiac surgery. (100 marks)

6. Stem cell transplants can be used to treat patients with haematological malignancies.

6.1. What are the advantages and disadvantages of stem cells collected from

(a) Bone marrow
(b) Mobilised stem cells from peripheral blood (PBSCs)
(c) Cord blood

(25 marks)

6.2. How may the outcome of the transplant be influenced if the stem cells are derived from

(a) an identical twin
(b) a matched sibling
(c) a matched, unrelated donor

(25 marks)

6.3. Give an account of the assessment of an allogenic volunteer donor for suitability to donate bone marrow or peripheral blood stem cells (PBSCs). (50 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION
MARCH 2009

Date : 24th March 2009 Time :9.00 a.m.- 12.00 noon.

PAPER II

Answer any five questions.
Answer each question in a separate book.

1.

1.1. What do you understand by the term clinical audit ? (20 marks)

1.2. How would you organize an audit of red cell transfusion for hip Replacement surgery in all hospitals in Colombo ? (40 marks)

1.3. How would you use the results of your audit to try and improve transfusion practice ? (40 marks)

2. Donor selection has two purposes; to ensure the safety of the blood and to ensure the safety of the donor.
What are the principal measures of donor selection and care which are designed to ensure the safety and protect the health of the donor and what is the rationale for these measures ? (100 marks)

3.

3.1. What is the value of standard operating procedures (SOPs) ? (40 marks)

3.2. What information should an SOP contain and how should such a document be approved and distributed ? (60 marks)

4. A 65 year old male patient with myelofibrosis presented with Hb of 5.4 g/dl. The clinician suggested 3 units of packed cells to be transfused on three consecutive days. 10 minutes after starting the second unit on the second day he developed confusion, restlessness and tachypnoea.

4.1. What is the differential diagnosis ? (30 marks)

4.2. How would you investigate and manage this patient ? (70 marks)

5.

5.1. Outline the indications for exchange transfusion ? (30 marks)

5.2. Discuss the principles and procedures for exchange transfusion in a two day old baby. (70 marks)

6. How would you investigate and manage a male patient who been transferred from a base hospital to the casualty ward with a two day history of spontaneous muscle haematoma in the thigh ? He has been treated with blood and blood products in the base hospital on the previous day. (100 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION
MARCH 2010

Date : 15th March 2010 Time : 1.00 p.m.-4.00 p.m.

PAPER I

Answer any five questions.
Answer each question in a separate book.

1. Discus the problems encountered due to ABO incompatibility in bone marrow transplantation. How would you overcome these problems ?

2.

2.1. What are the quality specifications for an adult dose of platelets and how should they be stored ?

2.2. How can the quality of platelets be monitored ?

2.3. What recommendations would you make for the blood group of platelets to be used if platelets of the patient's own group are not available ? Give reasons.

2.4. How can the efficacy of platelet transfusions for the recipients be monitored ?

3. Give an account of the management of foetal and neonatal haemolytic disease due to anti c.

4. Write short notes on ;

4.1. Red cell storage lesions

4.2. The value of monoclonal antibodies in blood group testing.

5.

5.1. How would you manage an adult female patient aged 25 years group O Rh D negative; who has inadvertently been transfused with 2 units of group 0 Rh D positive blood.

5.2. Discuss the value of routine antenatal anti-D administration to all Rh D negative pregnant females.

6.

6.1. How should blood donors be selected to ensure that they are in good health so that their health is not adversely affected by blood donation.

6.2. Discuss the optimal post exposure prophylaxis which should be adopted in occupational exposure to blood borne diseases

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION
MARCH 2010

Date : 16th March 2010 Time : 9.00 a.m.-12.00 noon.

PAPER II

Answer any five questions.
Answer each question in a separate book.

1. Sri Lanka is threatened with a pandemic of a new type of influenza. No vaccine is currently available.
   Write an emergency plan for the Sri Lankan Transfusion Service to cope with such an epidemic whilst maintaining essential blood supplies.

2. Give an account of Cord Blood Banking. Describe the rationale for such a service, how donors are recruited and the advantages and disadvantages.

3. Draw up guidelines for a hospital blood bank to ensure that at each stage of the transfusion process, sample collection, testing, crossmatching, issue of blood to the ward and transfusion, the correct patient is identified and transfusion mismatch avoided.

4. Write short notes on :

   4.1 The use of factor Vlla

   4.2. The significance of a positive DAT

   4.3 The use of intravenous immunoglobulin

5. Suppose that a new blood borne virus infection has been identified. What factors would you consider prior to implementing a screening test for this infection on all blood donations in Sri Lanka ?

6. A 29 year old female in her third pregnancy attended the casualty unit in labour and had a normal vaginal delivery. She developed a massive post partum haemorrhage within 30 minutes of delivery. Give an account of the management of this situation as the transfusion specialist working in the hospital.

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION
MARCH 2011

Date : 14th March 2011 Time : 1.00 p.m.-4.00 p.m.

PAPER I

Answer any five questions.
Answer each question in a separate book.

1. You are posted as the Director Blood Bank to an area Where many Jehovah's witness persons are residing.

   Discuss the strategic problems that you may have to encounter in your routine work and how you will address them. (100 marks)

2,

   2.1. What is the purpose of high titre (HT) Anti A/B testing of donors ? (10 marks)

   2.2. What is the assumed serological cut off for HT testing and what laboratory investigations would you carry out ? (15 marks)

   2.3. What are the implications of major ABO incompatibility and minor ABO incompatibility in platelet transfusion ? (25 marks)

   2.4. What measures would you implement to prevent acute immune haemolytic transfusion reactions at hospital setting ? (50 marks)

3. Write short notes on –

   3.1. Human parvo virus B_{19} in blood transfusion. (30 marks)

   3.2. Solvent detergent treated FFP. (30 marks)

   3.3. Clinical application of molecular typing of red cell antigens. (40 marks)

4.

4.1.

4.1.1. Discuss the characteristics of Hepatitis **B** virus in relation to its antigenicity. (30 marks)

4.1.2. Outline the strategies to prevent Hepatitis **B** virus transmission. (40 marks)

4.2. Discuss briefly the management of a donor found to be positive for Hepatitis **C** screening test. (30 marks)

5.

5.1. What is maximum Surgical Blood Ordering Schedule (MSBOS) ? (15 marks)

5.2. Why is it relevant for pre-operative autologous donation ? (10 marks)

5.3. What are the advantages and disadvantages (for the patient) of pre-operative autologous red cell donation ? (45 marks)

5.4. if you were assessing a patient's suitability to donate blood for a 'total hip replacement', give five (05) reasons for temporary or permanently deferring this procedure. (30 marks)

6. Give a brief account on

6.1. classical T antigen activation and transfusion support (40 marks)

6.2. Transfusion support in a patient with 1gA deficiency with anti – 1gA. (20 marks)

6.3. Use of Rh D negative RBC (mandatory and acceptable) indications. (40 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (TRANSFUSION MEDICINE) EXAMINATION
MARCH 2011

Date : 15th March 2011 Time : 9.00 a.m.- 12.00 noon.

PAPER II

Answer any five questions.
Answer each question in a separate book.

1. As a newly appointed transfusion specialist in a teaching hospital you are asked to set up a hospital transfusion committee.

   What appropriate actions would you take ? (100 marks)

2.

   2.1. Define massive haemorrhage. (30 marks)

   2.2. Draft a protocol for the management of life threatening haemorrhage in both elective (surgical/obstetrics) and emergency situations. (70 marks)

3. Give an account of the key aspects of quality assurance in pre-transfusion testing for red cell transfusion. (100 marks)

4.

   4.1. Define Audit. Why should we be doing it in blood transfusion ? (30 marks)

   4.2. How would you organize an audit of use of FFP in hospitals in the Western Province of Sri Lanka. (35 marks)

   4.3. How would you use the result of your audit to improve transfusion practices in the province. (35 marks)

5.

5.1. Critically evaluate the methods available for estimation of foeto maternal haemorrhage. (FMH). (40 marks)

5.2. A 30 year old woman blood type O Rh D negative, had an abdominal injury and gave birth to a premature baby at 35 weeks of gestation.
The baby typed as Rh D positive and weighed 2.5 kg.
Kleihaeur test indicated that she had a large foeto maternal haemorrhage of 90 ml.

5.2.1. What further investigations would you carry out ? (10 marks)

5.2.2. Further investigations to confirm that the FMH is 110 ml. What advice would you give and how would you manage this case ? (50 marks)

6. Write short notes on –

6.1. Life cycle of plasmodium falciparum and its importance in transfusion. (30 marks)

6.2. Weak Rh D. (30 marks)

6.3. Application of flow cytometry in transfusion medicine. (40 marks)