POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

DIPLOMA IN TRANSFUSION MEDICINE EXAMINATION
MARCH 2008

Date : 17th March 2008 Time : 1.00 p.m. – 4.00 p.m.

PAPER 1

Answer all questions.
Answer each question in a separate book.

1. In your hospital over the past few months there had been a number of occasions where elective operations had to be postponed due to shortage of blood.
   Describe the actions you would take to over come this problem.

2. Give an account of measures taken to ensure a high quality platelet component.

3.
   3.1. What are the immediate and late vascular complications of blood donation ?

   3.2. How would you detect and manage these complications ?

4.
   4.1. How do you minimize the incidence of transfusion transmitted HIV infection ?

   4.2. Describe the different test methods available to detect the presence of HIV in blood donors.

5.

5.1. What is the definition of an acute transfusion reaction and give six examples ?

5.2. Describe the investigations you would recommend for 3 of these reactions.

6.

6.1. Give an account of preparation and storage of cryoprecipitate.

6.2. Describe the clinical use of cryoprecipitate.

7.

7.1. What antibodies give optimal reactions with the following techniques-

(a) Saline – room temperature

(b) enzyme

(c) indirect antiglobuliln test

7.2. How useful are these techniques

(a) In antibody identification

(b) In determining clinical significance of antibodies

8.

8.1. What are the indications for neonatal red cell transfusion ?

8.2. What are the specifications for red cells used in each of these Indications ?

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN TRANSFUSION MEDICINE EXAMINATION
MARCH 2010

Date : 9th March 2010 Time : 1.00 p.m.-4.00 p.m.

PAPER 1

Answer all questions.
Answer each question in a separate book.

1. Bruising is one of the most common complications of blood donation.

   1.1. What measures can be taken to reduce the incidence of bruising ?

   1.2. How would you manage a donor with bruising and phlebitis ?

   1.3. What complications may follow an accidental arterial puncture and how should such an event be managed ?

2.

   2.1. Describe briefly how an ABO incompatible transfusion can be administered to a patient in error. How can such errors be prevented ?

   2.2. Discuss the pathophysiology of an ABO incompatible transfusion reaction.

3.

   3.1. What are the risk factors for the transmission of hepatitis C (HCV) ?

   3.2. What measures can be taken to minimize the risk of transmission of HCV through transfusion ?

   3.3. What action would you take if a regular blood donor is found to be HCV antibody positive ?

4.

4.1. A 3 year old boy presented to the haematology clinic with recurrent attacks of haemarthrosis. Discuss briefly how you would investigate this patient.

4.2. How would you advise the dental surgeon on the transfusion management of an adult male with severe haemophilia B undergoing extraction of a molar tooth.

5. Write short notes on :

5.1. The platelet antigen system

5.2. Polyagglutination

6. Discuss the provision of blood for transfusion in the following situations.

6.1. Intrauterine transfusion in a pregnant female with anti D

6.2. Neonate needing repeated transfusions in the first month of life.

7.

7.1. Give an account of the preparation and storage of FFP.

7.2. What are the clinical indications for the use of FFP ?

7.3. What steps can be taken to prevent inappropriate use or wastage of this product ?

8. What measures can be taken to ensure that whole blood collected at both static and mobile donor sessions is of the highest quality and safety for transfusion.

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN TRANSFUSION MEDICINE EXAMINATION
MARCH 2011

Date : 8th March 2011 Time : 1.00 p.m.-4.00 p.m.

PAPER 1

Answer all questions.
Answer each question in a separate book.

1.

1.1. What are the clinical indications for leucocyte depleted blood and blood products ?

1.2. What are the adverse effects of leucocytes in blood components ?

1.3. What is the maximum residual leucocyte count in a bag after leucocyte depletion at the blood transfusion centre ?

1.4. Why is there less reduction in the incidence of febrile non haemolytic transfusion reactions after using bed side filtration compared to leucocyte depletion at the blood transfusion centre ?

2.

2.1. What is the pathophysiology of transfusion related lung injury (TRALI) ?

2.2. How do you diagnose and manage TRALI ?

2.3. Give three (03) strategies for prevention of TRALI.

3.

3.1. What viruses are transmitted by the transfusion of non cellular blood products ?

3.2. Briefly write the measures that can be taken to minimize the risk of viral transmission by fresh frozen plasma.

3.3. What are the indications for transfusion of cryoprecipitate ?

4.

4.1. Discuss the importance of the antiglobulin test.

4.2. List the conditions which give a positive direct antiglobulin test (DAT) with

4.2.1. (IgG + C_3d) or Ig G only

4.2.2. C_3d only

4.2.3. IgG + IgM + C_3d

4.3. What are the disadvantages of using polyspecific reagents for DAT ?

4.4. List the causes for false negative DAT.

5.

5.1. What are the reasons for increased transfusion requirements in neonates compared to adults ?

5.2. Give a brief account on strategies to minimize transfusions and transfusion associated risks in neonates.

6.

6.1. How would you manage the following cases ?

6.1.1. A 40 year old man who donated yesterday and complains that he has ‘pins and needles’, numbness and swelling of his fingers. He is a professional pianist and is due to play in a concert in three days time.

6.1.2 A 40 year old male is donating platelets by apheresis for the first time. Towards the end of the procedure he complains of a metallic taste in his mouth. Then he says that his whole body is vibrating.

6.1.3. A 55 year old woman who complains that she has developed a lump in the cubital fossa at the site of venepuncture a week after donation.

6.1.4. A 58 year old woman who has donated blood 34 times previously and feels faint and cold at the donor session. She has never fainted before. She looks sweaty and pale and complains of indigestion pain.

7.

7.1. List three (03) antibodies which can cause hydrops foetalis and severe haemolytic disease of the newborn.

7.2. What is the aim of antenatal antibody screening programme ?

7.3. What are the criteria for selecting blood for exchange transfusion ?

7.4. What is the principle of exchange transfusion ?

7.5. List the potential adverse effects of exchange transfusion.

8.

8.1. Define the term platelet refractoriness.

8.2. What are the causes of refractoriness to platelet transfusions ?

8.3. List the antigens that are expressed on platelet membrane.

8.4. Give two (02) examples for contraindications for platelet transfusion.

8.5. What steps can be taken to prevent inappropriate use of this product ?

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN TRANSFUSION MEDICINE EXAMINATION
MARCH 2012

Date : 8th March 2012 Time : 1.00 p.m.-4.00 p.m.

PAPER 1

Answer all questions.
Answer each question in a separate book.

1.

1.1. What are the risks posed by bacterial contamination of blood components ?

1.2. Discuss potential strategies for minimizing the risk.

2.

2.1. Outline the pathogenesis of haemolytic disease of newborn (HDN)

2.2. How does ABO HDN differ in the presentation from rhesus haemolytic disease ?

2.3. Describe the laboratory tests necessary to establish the diagnosis of ABO HDN.

2.4. Outline the treatment of HDN.

3.

3.1. What is umbilical cord blood banking ?

3.2. What are the potential advantages and disadvantages in using cord blood as a source of stem cells for transplantation ?

3.3. What tests should be carried out on maternal and cord blood samples selected for banking ?

4.

4.1. Define the term therapeutic plasma exchange (TPE).

4.2. List the standard acceptable indications for TPE.

4.3. Briefly describe the assessment of patient prior to TPE.

4.4. What are the complications associated with TPE ?

5.

5.1. List the tests available to diagnose syphilis.

5.2. Discuss the tests which are used in donor screening for syphilis mentioning the importance of these tests.

5.3. Give an account of management of a positive screening test for syphilis in a blood donor.

6.

6.1. Discuss the pathogenesis.

6.2. Outline the management of an episode.

6.3. Implication/s for future transfusion, if any.

6.4. Implication/s for siblings, if any.

7.

7.1. How do you investigate a male child coming with excessive bleeding following minor trauma ?

7.2. How do you manage a 11 year old boy diagnosed with severe haemophilia A admitted with fresh bleeding per rectum ?

8.

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

8.2. What action would you take immediately ?

8.3. What post donation advice will you give the donor ?

8.4. What are the possible long term complications ?

POSTGRADUATE INSTITUTE OF MEDICINE
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POSTGRADUATE DIPLOMA IN TRANSFUSION MEDICINE EXAMINATION
MARCH 2013

Date : 11th March 2013 Time : 1.00 p.m.-4.00 p.m.

PAPER 1

Answer all questions.
Answer each question in a separate book.

1.

1.1. Discuss the immuno haematological investigations and management of a Rh negative woman in her second pregnancy who is presenting at 12 weeks of gestation.

1.2. Above woman is found to have an anti D level of 20 IU at 34 weeks of gestation. Briefly outline the management of this pregnancy.

2.

2.1. Outline the different indications of red cell transfusions in sickle cell disease.

2.2. Discuss the hazards associated with these transfusions.

2.3. How do you prevent these complications?

3.

3.1. Describe the immunological basis of haemolytic transfusion reactions.

3.2. Briefly explain the mechanism of allorecognition in transplantation.

4.

4.1. What are the causes of neonatal anaemia?

4.2. List the indications for neonatal red cell transfusion.

4.3. Discuss the strategies that can be adopted to minimize transfusion risks common to neonates.

5.

5.1. Briefly describe the immunological basis of Transfusion Related Acute Lung Injury (TRALI).

5.2. What are the different leucocyte antibodies that could cause TRALI?

5.3. List the tests available to detect leucocyte antibodies.

5.4. Briefly describe the strategies that could be implemented to reduce the incidence of TRALI.

6.

6.1. What are the problems encountered during pre transfusion testing in a patient with red cell cold agglutinin?

6.2. How would you overcome these problems?

6.3. List the precautions you would suggest to the surgeon regarding a patient with red cell cold auto agglutinin, undergoing following surgical procedures.

6.3.1. Laparotomy

6.3.2. Open heart surgery

6.3.3. Renal transplant

7

7.1 How would you minimize the risk of transfusion transmissible viral infections?

7.2. What test methods are available for the detection of above mentioned infections?

8.

8.1. What are the types of platelet concentrates available in Sri Lanka ?

8.2. Discuss briefly the advantages and disadvantages of each type of platelets mentioned in 8.1.

8.3. Outline the complications that can occur following platelet transfusion.

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN TRANSFUSION MEDICINE
EXAMINATION (old)
FEBRUARY 2014

Date : 17th February 2014 Time : 1.00 p.m.-4.00 p.m.

PAPER 1

Answer all questions.
Answer each question in a separate book.

1. A new organizer seeks advice on how to conduct a successful mobile blood donation campaign. How would you help him ?

2

2.1. What techniques are available for testing of blood donors for transfusion transmissible infections (TTI) ?

2.2. What factors would you consider when selecting test kits for blood donor screening ?

2.3. Compare different techniques used to detect transfusion transmissible infections by the National Blood Transfusion Service of Sri Lanka.

3. A blood sample from a group A RhD positive untransfused male patient with lymphoma has been sent to the reference laboratory due to a difficult cross match.

What steps would you take to provide blood for this patient ?

4. A patient receiving a platelet transfusion developed fever and hypotension 10 inutes after the onset of the transfusion.

   4.1. What are the likely causes for this reaction ?

   4.2. It was found that the unit transfused was 5 days old. From the causes given above, select the most likely one and discuss the strategies to prevent such occurrences in future.

5.

   5.1. What is haemovigilance ?

   5.2. What are the types of haemovigilance systems ?

   5.3. Why should a transfusion service have a haemovigilance system ?

6. Discuss how blood and blood components help to manage a patient with acute bleeding due to disseminated intravascular coagulation (DIC).

7. Discuss how the antenatal screening programme help to minimize the incidence of haemolytic disease of the new born (HDN) in Sri Lanka.

8. A 2-day old term baby with a few purpuric patches was found to have a platelet count of 20,000/mm^3

   8.1. What are the possible causes for thrombocytopaenia in this baby ?

   8.2. What information and further tests are required to arrive at a conclusive diagnosis?

   8.3. How do you select platelets for neonatal transfusions?

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN TRANSFUSION MEDICINE
EXAMINATION (new)
MARCH 2014

Date : 3rd March 2014 Time : 1.00 p.m.-4.00 p.m.

PAPER 1

Answer all questions.
Answer each question in a separate book.

1.

1.1. List the complications of blood donation.

1.2. Describe steps that can be taken to minimize such complications.

2. During a routine screening of whole blood for transfusion transmitted infections, it was found that a unit is reactive for HIV markers.

How would you proceed ?

3. A house officer informs you that the platelet count of a patient receiving platelet transfusions did not increase to the expected level.

Describe the possible causes and precautionary measures that can be taken to minimize them.

4. A 35 year old male patient is having headache, fever and weakness of two weeks duration. Investigations revealed his Hb is 7g/dl, WBC 9000/mm^3, platelet count 22,000/mm^3, LDH 1250 iu/L, PT/APTT are normal.

4.1. What further information/investigations would you require to arrive at a diagnosis ?

4.2. You get a request for platelets from the ward. How would you advise?

4.3. Briefly mention the management of this patient.

5. A 46 year old male patient admitted to the ward with a diabetic ulcer received a RBC transfusion due to low Hb. Patient complained of chest pain and arrested 10 min after the start of transfusion. Transfusion reaction investigations revealed the following results.

Blood group of pre transfusion sample - A Rh D Positive
Blood group of post transfusion sample - O Rh D Positive

Discuss the possible causes for the error.

6.

6.1. What is a hospital transfusion committee (HTC)?

6.2. List the composition of HTC?

6.3. How can the HTC contribute to minimize the inappropriate RBC usage in your hospital ?

7. After a road traffic accident 10 units of RBC were given to a young male patient during surgery and the patient was admitted to the ICU. Anaesthetist in charge of ICU wants your opinion on further management of this patient. How do you advise ?

8.

8.1. Explain the differences between indirect and direct antiglobulin tests.

8.2. What are the sources of error in antiglobulin testing?