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Eselinis

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR ENROLMENT TO THE
IN-SERVICE TRAINING PROGRAMME IN POSTGRADUATE
DIPLOMA IN TRANSFUSION MEDICINE - NOVEMBER 2019

Date :- 05th November 2019

Time :- 1.00 p.m. – 4.00 p.m.

Answer six (06) questions only.

Answer each question in a separate book.

1. A 30 year old lady was admitted to a surgical ward for Cholecystectomy.
A request was sent to the Blood Bank for 2 units of red cells concentrate.

Medical Officer Blood Bank informed you that unexpected red cell antibody screening is positive and need to send the sample to the Reference Laboratory for further investigations to find compatible blood for her surgery.

- 1.1. What are the special information which should be mentioned on the Immunohaematological investigation request form? (25 marks)
- 1.2. Briefly describe the importance of each information you mentioned on the request form. (40 marks)
- 1.3. List the type and volume of blood samples you should sent to the Blood Bank to be sent to the Reference Laboratory. (05 marks)
- 1.4. Discuss the management of this patient if you get the report mentioning red cell antibody/ies are present in her blood sample. (30 marks)
2. Write short notes on the following;
- 2.1. Delayed Haemolytic Transfusion Reaction (50 marks)
- 2.2. Transfusion Related Acute Lung Injury (TRALI) (50 marks)

Contd.../2

3. 30 year old male donor wants to donate his blood at a mobile blood donation campaign. He insists to allocate this unit of blood to his wife who is awaiting Thyroidectomy three days later.

3.1. Describe the reasons for accept/defer him from blood donation. (40 marks)

3.2. List out the post donation complications. (20 marks)

3.3. Discuss the immediate management of common post donation complications. (40 marks)

4. 26 year old patient who is being transfused with O Rh D Negative Red Cell Concentrate, complains that he is getting a wrong blood type. He has a donor booklet mentioning his blood group is O Rh D Positive.

4.1. How do you explain this situation to the patient emphasizing the laboratory testings were correct at both occasions? (20 marks)

4.2. Discuss the clinical significance of anti D antibody. (30 marks)

4.3. You have received following five red cell requests from wards. Explain with reasons how you allocate blood for them from the available blood stock.

Currently available blood stock in your blood bank is given below.

O Positive	40	O Negative	03
A Positive	10	A Negative	02
B Positive	20	B Negative	0
AB Positive	02	AB Negative	0

4.3.1. An urgent blood request from Emergency Treatment Unit (ETU) for a 40 years old male admitted following Road Traffic Accident. (10 marks)

4.3.2. O Rh D negative mother who is waiting for an Emergency LSCS due to past LSCS and breech presentation. (10 marks)

4.3.3. A routine request from paediatric unit for B Rh D Negative ,10 year old boy investigating for symptomatic anaemia. (10 marks)

4.3.4. Group B Rh D Positive, 3 days old baby needs red cell transfusion to top up the Haemoglobin level. Mother's blood Group is A Rh D Positive. (10 marks)

4.3.5. 30 year old female with Haemoglobin level of 3g/dl. Her blood film shows severe auto agglutination. (10 marks)

Contd.../3

- 5.
- 5.1. What are the immunohaematological investigations which should be routinely performed at the booking visit of a pregnant mother? (10 marks)
 - 5.2. List five (05) most common red cell allo antibodies which cause Haemolytic Disease of Foetus and New Born (HDFN). (10 marks)
 - 5.3. What are the investigations which should be carried out with cord blood sample if a mother has clinically significant red cell allo antibodies? (10 marks)
 - 5.4. Write the rationale of doing each investigation mentioned in 5.3 . (30 marks)
 - 5.5. Discuss the management of a neonate who is having Haemolytic Disease of the New Born (HDN). (40 marks)
6. Identification of an appropriate blood donor population and selection of safe donors remains a main strategy in minimizing Transfusion Transmitted Infections.
- 6.1. What are the questions you should ask from a blood donor to elicit the risk of Transfusion Transmitted Infections? (30 marks)
 - 6.2. Describe the strategies which should be implemented to prevent Transfusion Transmitted Bacterial Infections. (30 marks)
 - 6.3. How do you investigate a suspected Transfusion Transmitted Infection reported by a clinician from your hospital? (40 mark)
7. Following are the details of two red cell requests received from a surgical ward to the Blood Bank at 8 am.

	Patient 1	Patient 2
Name	X. C.	Y. C.
Age	75 yrs	70 yrs
BHT number	1920	1935
Blood Group
Recent transfusion	within 3 days	No
Hb level	7g/dl	9g/dl
Indication for transfusion	Awaiting Vascular surgery	Awaiting Prostatectomy
Name of the phlebotomist	A	A

Blood transfusion was given to Patient 1 to correct Haemoglobin prior to surgery. Patient had developed hypotension, high fever with chills and rigors 15 minutes after starting the red cell transfusion. Transfusion was stopped and post transfusion sample and blood pack were sent to the blood bank for investigations.

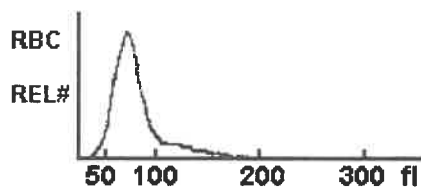
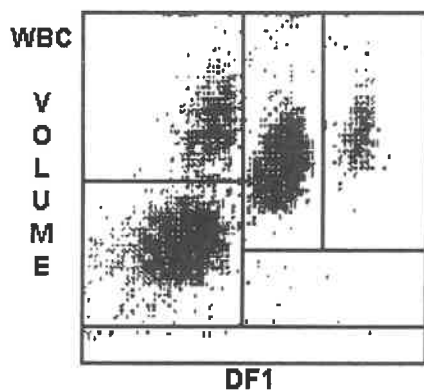
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Results of the investigations are mentioned below;

	A	AB	B	D	A1 cells	B cells	O cells
Pre transfusion sample	0	4+	4+	4+	3+	0	0
Post transfusion sample	0	1+mf	1+mf	1+mf	4+	4+	0
Blood pack	0	4+	4+	4+			

- 7.1. Interpret the blood grouping results with reasons. (20 marks)
- 7.2. Mention the other investigations which should be performed and write the expected changes. (20 marks)
- 7.3. What are the critical points in transfusion chain from the patient sample collection to transfusion of the red cell concentrate ? (20 marks)
- 7.4. What is the reason for this incident? (10 marks)
- 7.5 "This incident would have been prevented". Briefly discuss this statement. (30 marks)

8.



WBC	5.5	
	%	#
NE	54.7	3.0
LY	34.1	1.9
MO	7.5	0.4
EO	3.0	0.2
BA	0.7	0.0
RBC	4.28	L
HGB	9.7	L
HCT	29.9	L
MCV	69.7	L
MCH	22.6	L
MCHC	32.4	L
RDW	18.4	H
PLT	331	
MPV	8.8	

Contd.../5

This is a full blood count result of a 30 years old pregnant mother, who is in her 3rd pregnancy with a POA of 10 weeks. Her Antenatal Record shows her blood group is O Rh D negative and had past two cesarian sections. Two children are 3 years and 1 year having uncomplicated birth histories.

8.1 . Workout a tentative diagnosis from the results of the full blood count report and the given history. (20 marks)

8.2. What further investigations would you request to manage this pregnancy? (10 marks)

8.3. What are the reasons for requesting each of the investigation mentioned in 8.2 . (30 marks)

8.4. This mother has not attended follow up clinics after booking visit and later presents to the Antenatal Clinic at POA of 34 weeks with a Haemoglobin level of 8.5 g/dl with same results in RBC indices. No abnormality was found in coagulation studies, renal function tests or liver function tests.

Write a management plan for this mother? (40 marks)