**IQRA NATIONAL UNIVERSITY**

 **Final-Term Exame 2020**

** **

 **ALLIED HEALTH SCIENCE**

**BS MLT 6th**

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 **Subject: -**Blood banking

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**Q1: Define Hemovigilance. Discuss benefits and limitations of Hemovigilance?**

The term hemovigilance derived from two words first one is great hemo means blood and second is latin vigilance means word which means watchful. In 1994 the France scientists work with the setup of monitoring system of blood transfusion

**Definition:** - According to Ashish Jain and Revneet kaunar.

Hemovigilance as a set of surveillance procedure which are cover whole transfusion chain from the collection of blood and its parts which follow up of hemovigilance recipients for the purpose of to collect and across the information which are occur unexpected effect resulting from a theuraptic use of labile blood products and occur again. Therefore, the function hemovigilances system which improve the safety of blood transfusion.

**Limitation of Hemoviglance**

Not full complete reporting.

RBCs Distraction.

Specific in details.

Variation in terminology and definitions.

Involving of health care system’s or institution’s culture regarding compliance, process improvement.

**Q2: -What is the purpose of cross match? Discuss the procedure of major cross match.**

Cross matching:-It is the procedure in which the patients’ blood test against the donor blood to make sure that they are fully compatible. This process takes fourth five (45) mints to one (1) hours. The trills transfusion is done through test tube to observed the exactly how the patients’ blood reacts with donor blood.

**Purpose of cross matching: -**

The purpose of cross matching for dedicating of antibodies in the patients against the RBCs of the donors after transfusion. In abnormal can result in severe hemolytic can occur or even death.

 **Procedure of major cross match**

In the major cross matching there are following cross matching.

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| 1 | Label three tubes S1 and S2 ‘’Saline’’ and A1 ‘’Albumin’’.   |
| 2 | To each tube and two (2) drop of fresh serum from the patients.  |
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| 3 | Each tube add two (2) drops of five (5)% of saline suspension of donor’s cell. |
| 4 | To tube A1 add two drops of Bovine albumin twenty two (22)%. |
| 5 | Centrifuge both tube S1 and A1 for Fifteen (15) mints at three thousand four (3400) rpm. |
| 6 |  Read microposally for hemolysis and record the result.  |
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**Q3: Describe the pathogenesis of HDN?**

 **Rh Antibodies **

Antibodies coating red cells

Destructions of Fetal cells by fetal RES

Fetal anemia

 Fetal hypoxia and activate erythoprotein

 Extra medullary red cells synthesis

 Hepathomegally (enlargement of liver)

 Hepatic cell damage

 Hypoprotemia, Increase Inerratic pressure, portal hypertension

 Ascetic, edema, Hypoxia, placenta Thickness

 Polyhydramnios, pericardial effusion.

 Hemolytic disease of new born occur when the baby red blood cell breaks down at a fast rat.HDN happens when Rh negative(-ive) mother has a baby with a Rh positive (+ive) father. If the Rh negative (-ive) mother has been makes to Rh positive (+ive) blood the mother immune system make antibodies against fetus and destroy fetus red blood cells.

**Q4: What is the function of Duffy antigens**

According to pogo AO in 2000 The Duffy antigens chemokine respecter, as a chemokine respecter its bind with chemicals that are activate by cell darning inflammation with other blood cells to the area of damage. The chemokine includes acute inflammatory chemokine and chronic inflammatory chemokines interleukin and regulation on activation normal T-express and secretions.

**Q5: How is Coombs reagent prepared? Write down the procedure of IAT**

**History:-**It was discovered by coombs in 1945.coombs reagents reagent is antihuman globulin. It is made by injections human globulin into animals which produced polynoaml anti bodies which are specific for the human immunoglobine and human complementary system.

**Preparation of coombs reagents: -**coombs reagents is prepared by the taking blood from the human then separate the serum with auto-antibodies. Then the serum was injected to the lab animals produced antibodies against the auto-antibodies. Then the blood from the animals is draw and separated to given the form antibodies.

**Procedure of IAT: -**

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| **1** | It is labelled three test tube first one is test serum , positive control and third one is negative control. |
| **2** | In ITA procedure the labelled tube T test take two drop of test serum |
| **3** | In the test tube take one drop of anti D serum. |
| **4** | In the test tube labelled negative control take one drop of normal saline. |
| **5** | Then add one drop of 5 percent saline suspension of the pooled "O" RHo (D) positive cells in Each tube. |
| **6** | Incubate all the three tube for one hour at 37 centigrade. |
| **7** | wash the cell three time in normal saline to remove excess serum with no free antibodies, in case of inadequate washing of the red cells, negative result may be obtained |
| **8** | Add two drops of COOMBS serum to each tube. |
| **9** | Keep it for 5 minutes and then centrifuge at fifteen hundred (1500) RPM for one minute |
| **10** | Re suspend the cell and examine macroscopically as well as microscopically  |