M.D. DEGREE EXAMINATION

BRANCH XXI – IMMUNOHAEMATOLOGY AND BLOOD TRANSFUSION

PAPER IV – RECENT ADVANCES IN IMMUNO-HAEMATOLOGY AND BLOOD TRANSFUSION

Q.P. Code: 202099

Time: Three Hours   **Maximum: 100 Marks**

I. Essay Questions: **(2 x 15 = 30)**

1. Emerging Transfusion transmissible infections and strategies to combat them in a resource constrained region. Contrast with strategies in other high income countries.

2. Recent advances in the management of Trauma related blood loss.

II. Short notes: **(10 x 5 = 50)**

1. Recombinant erythropoietin in patients with chronic renal failure.

2. Gene editing and its potential for therapeutics.

3. ISBT128 standard in blood banking automation.

4. Factor:VIIa in the management of severe haemorrhage.

5. Platelets for off-label uses.

6. Umbilical cord banking.

7. Restrictive blood transfusion strategy – good or bad.

8. Immunotherapy.

9. Rationale of irradiation in the blood bank, platforms available and quality assurance of irradiated blood components.

10. Stem cells and its application in the blood bank.

III. Reasoning Out: (4 x 5 = 20)

1. A 10 year old male child with a history of bleeding into joints and deep haematomas since early childhood is evaluated. He is the first child of a first degree consanguineous marriage. A maternal uncle had a surgical procedure where unexpectedly, many units of blood had to be transfused. His blood tests show: Hb = 8.0 g/dL, TWBC = 9,200/cu mm; Plt count 2,32,000/cu mm. APTT = 102 secs (Ref interval 36-42 secs) PT = 12.4 secs (Ref interval = 11 – 15 secs), TT = 13 secs (Ref interval 12 – 14 secs).

   a) What is your clinical impression?
   b) What additional tests would you perform to confirm the diagnosis?
   c) What are the risks of transfusion of plasma for this child and how would you overcome it?

2. You have evaluated a young child with suspected Glanzmann thrombasthenia

   a) Which agonists will you recommend for this child?
   b) Draw the platelet aggregometry curves you will see during the evaluation.
   c) What is the confirmatory test?

3. Blood was taken to the bedside for intended transfusion. When it was checked, it was found that was a mismatch of the patient ID between the patient wrist band and on the compatibility report. The doctor has called for advice.

   a) What type of an event is this in Haemovigilance terminology?
   b) What are the possible reasons such a situation has happened and how can this be overcome?
   c) What will you advice the doctor?

4. A 48 year old adult from West Bengal came to blood bank to donate platelets on apheresis. His screening tests showed Hb = 14.8 g/dL, TWBC = 7,600/cu mm; Plt count 1,40,000/cu mm with MPV =12.4fl.

   a) What is your possible clinical impression?
   b) What queries will you ask to confirm?
   c) How will you proceed?

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