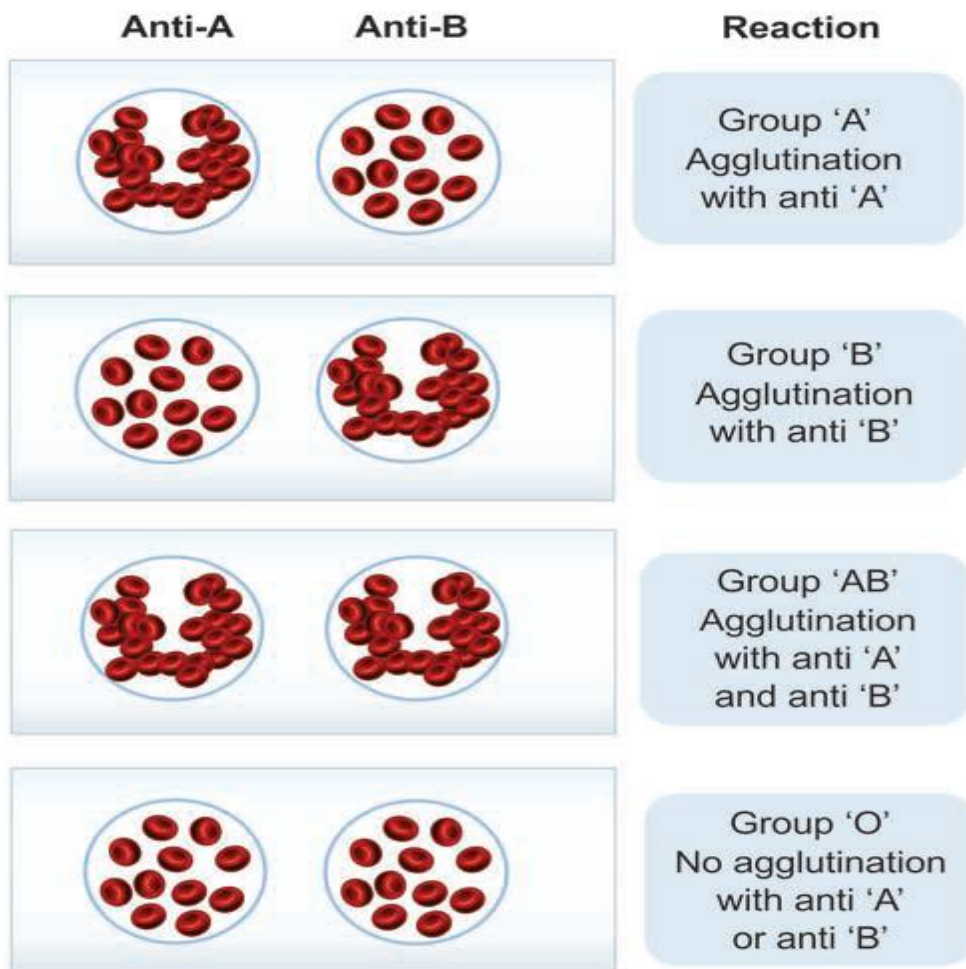


BLOOD GROUPS AND ITS SIGNIFICANCE:

- agglutination-antigen present in cell membrane of RBC
- agglutinin-antibody against agglutinogens
- agglutination-formation of clump

ABO blood group (Landsteiner):

It is based on the presence or absence of A and B agglutinogens on the cell membrane of RBC



AB group- universal recipient

O group- universal donor

Rh BLOOD GROUP SYSTEM(Rh FACTOR) :

1. The Rh factor was named after the rhesus monkey.
2. If Rh factor or antigen is present on a persons red blood cells,the person is Rh positive
3. If Rh factor or antigen is absent on a persons red blood cells,the person is Rh negative
4. The Rh blood group system is the most polymorphic of the human blood groups,consisting of at least 45 independent antigens.
5. The principal antigen is D, and the terms Rh positive and Rh negative refers to presence or absence of D antigen.other common Rh antigens include the C and c,and E and e antigens.
6. The Rh factor is of particular significance when Rh negative mothers give birth to Rh positive babies.
7. The fetal and maternal bloods are normally kept separate across the placenta and so the Rh negative mother is not usually exposed to the Rh antigen of the foetus during the pregnancy .
8. At the time of birth, however a variable degree of exposure may occur and the mothers immune system may become sensitized and produce antibodies against Rh antigen
9. This does not always occur however because the exposure may be minimal and because Rh negative woman vary in their sensitivity to the Rh factor
10. If a woman does not produce antibodies against the Rh factor,these antibodies could cross the placenta in second pregnancy and cause haemolysis of the Rh-positive red blood cells of fetus.
11. Therefore baby born with condition called erythroblastosis fetalis or hemolytic disease of new born.

12. Prevention of erythroblastosis fetalis- mother is injected with anti D soon after child birth.these antibodies destroy Rh positive RBC of the fetus which have gained access through maternal circulation
13. Treatment of erythroblastosis fetalis-replacement of babies Rh positive blood with Rh negative blood exchange transfusion

BLOOD TRANSFUSION:

Blood transfusion is an life saving measure and should be carried out when it is essential. blood transfusion is required during following conditions

- a. Blood loss
- b. Quick restoration of haemoglobin in conditions like anemia during pregnancy and emergency conditions
- c. Exchange transfusion-erythroblastosis fetalis
- d. Blood disease-aplastic anaemia,leukemia,haemophilia,purpura
- e. Acute poisoning- CO poisoning

PRECAUTIONS DURING TRANSFUSION:

1. cross matching
2. Rh+ve never transfused with Rh –ve
3. donor blood shoul always screened for various disease like AIDS,hepatitis,malaria
4. blood bag or bottle should be checked
5. proper aseptic measures
6. careful watch of recipient condition from time to time