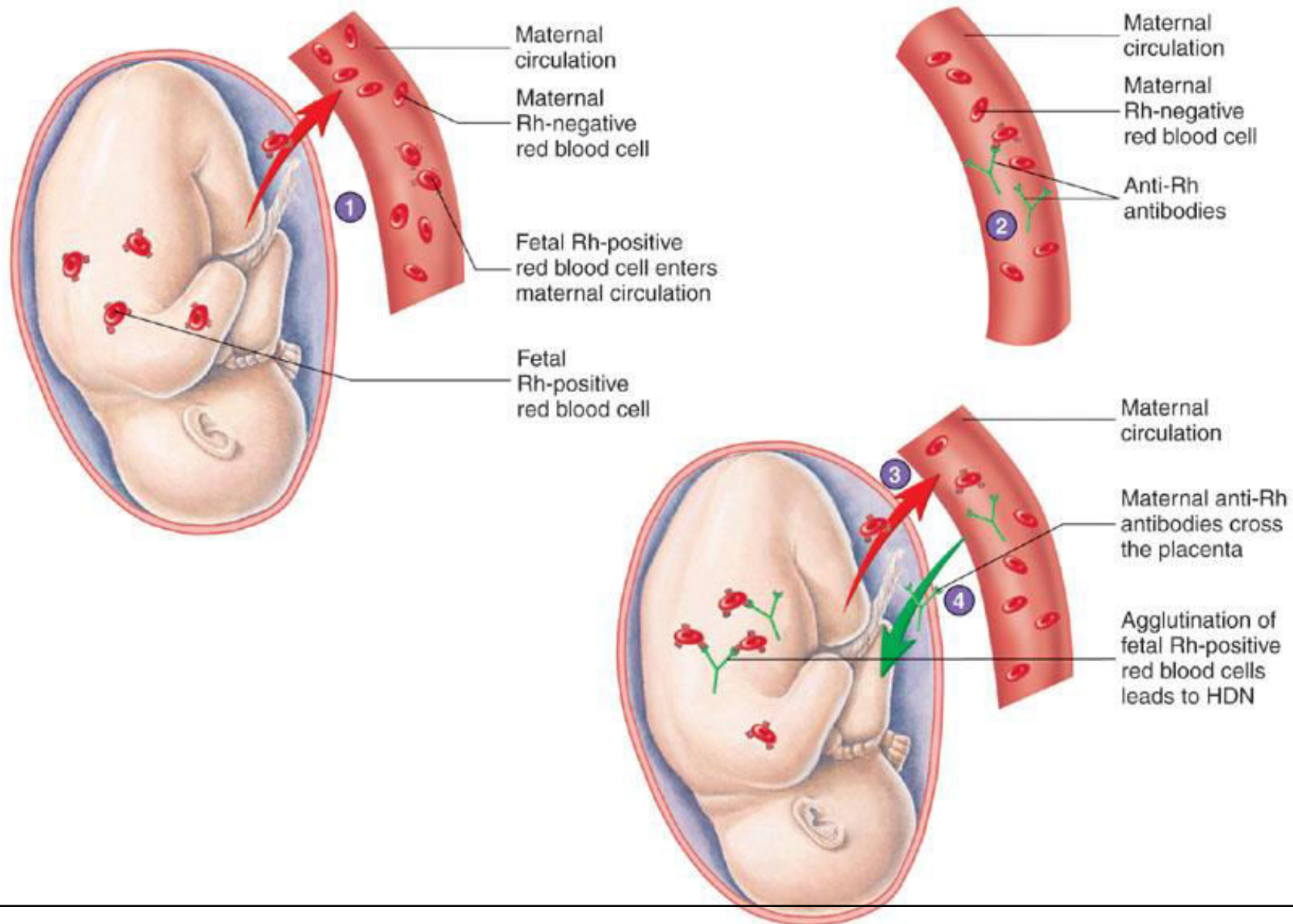


## RH BLOOD SYSTEM

- ⦿ Difference between ABO and Rh blood types
- ⦿ Six Rh antigens, each is called Rh factor.
- ⦿ C,D,E,c,d,e
- ⦿ Type D antigen is most prevalent and more antigenic
- ⦿ Persons having D antigen--- Rh positive
- ⦿ Persons not having D antigen--- Rh negative
- ⦿ + stands for Rh e.g. A+ve, B+ve, AB+ve, O+ve

Fig. 11.13

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## ERYTHROBLASTOSIS FETALIS OR HEMOLYTIC DISEASE OF NEWBORN

- ◉ Is a disease of fetus and newborn
- ◉ Mother is Rh -ve ,Father Rh +ve
- ◉ Danger is only when fetus acquires Rh +ve from father
- ◉ The first pregnancy usually proceeds without problems
- ◉ At birth, mother may receive some of baby's RBCs
- ◉ Mom's immune system is *sensitized*
- ◉ Makes antibodies against Rh
- ◉ In a subsequent pregnancy:
- ◉ Mother's blood carries antibodies
- ◉ Anti-Rh antibodies cross placenta
- ◉ Attack the Rh<sup>+</sup> blood in the fetus Antigen - Antibody reaction
- ◉ Agglutination of RBCs of fetus

# CLINICAL PICTURE OF ERYTHROBLASTOSIS FETALIS

- ⦿ Anemic or jaundiced
- ⦿ Hepatomegaly and splenomegaly
- ⦿ Nucleated blastic forms appear in blood
- ⦿ Permanent brain impairment or damage to motor areas of brain due to deposition of bilirubin in the neuronal cells--- Kernicterus

# PREVENTION AND TREATMENT

## Injecting Anti D antibody or Rh immunoglobulin

1. Inhibit antigen - induced B lymphocyte antibody production in the expectant mother.
2. It attaches to D antigen sites on Rh +ve fetal RBCs that may cross the placenta and enter circulation of expectant mother.

**Replacement of fetus blood with Rh -ve blood to minimize the levels of bilirubin**

# HAZARDS OF BLOOD TRANSFUSION

## 1. Mismatched blood transfusion

- a) Immediate hemolysis by IgM antibodies called hemolysins
- b) Delayed hemolysis after agglutination and phagocytosis

### Outcomes of hemolysis

Jaundice

Acute renal shutdown

## 2. Transmission of diseases

## 3. Hyperkalemia