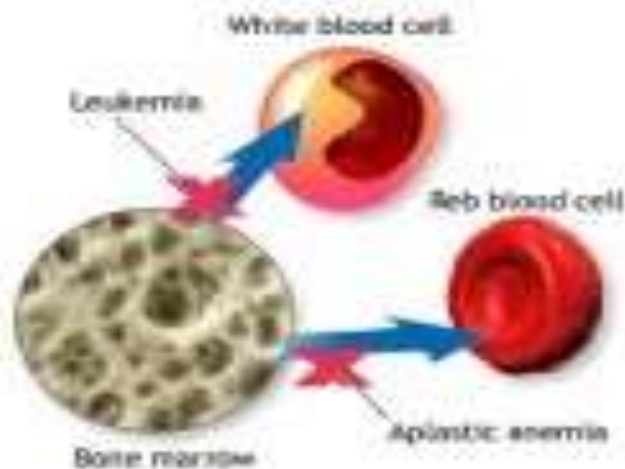


# **APLASTIC ANEMIA**

# DEFINITION

- Aplastic anemia is caused by aplasia of the bone marrow, which results in pancytopenia, a profound depression of all the formed elements of the blood. Pancytopenia is seen in a peripheral blood smear as thrombocytopenia, anemia and leukopenia.



# TYPES

- ◎ CONGENITAL (PRIMARY) APLASTIC ANEMIA-FANCONISYNDROME
- ◎ ACQUIRED ( SECONDARY ) APLASTIC ANEMIA

# CONGENITAL (PRIMARY) APLASTIC ANEMIA- FANCONI SYNDROME

**It is an autosomal recessive disorders**

## **Features**

- ◉ Microcephaly
- ◉ Microphthalmia
- ◉ Absence of thumb and radii
- ◉ Depressed & wide nasal bridge
- ◉ Epicanthal folds and microcanthia
- ◉ Mentally subnormal
- ◉ Hypopigmentation of the skin
- ◉ Short stature
- ◉ Abnormalities of the kidney & heart

# ACQUIRED ( SECONDARY ) APLASTIC ANEMIA

- ⦿ Causes
- ⦿ Ionizing radiation
- ⦿ Drugs-E.G Chloramphenical, Analgin, Cimidine, Phenytoin, Sulfonamide
- ⦿ Infection-Hepatitis B, C, D virus & Epstein-Barr virus
- ⦿ Household chemicals

# CLINICAL FEATURES

- ⦿ Progressive or persistent anemia
- ⦿ Weakness
- ⦿ Fatigue
- ⦿ Petechiae
- ⦿ Ecchymosis
- ⦿ Mucosal bleeding
- ⦿ Bleeding from gut or hematuria
- ⦿ Infection
- ⦿ Recurrent respiratory & GI infection
- ⦿ Intracranial bleeding

# DIAGNOSTIC TEST

- ⦿ Reticulocyte
- ⦿ Serum iron
- ⦿ Iron binding capacity
- ⦿ Bone marrow aspiration
- ⦿ RBC
- ⦿ WBC
- ⦿ Platelets

# MEDICAL MANAGEMENT

## **Symptomatic treatment**

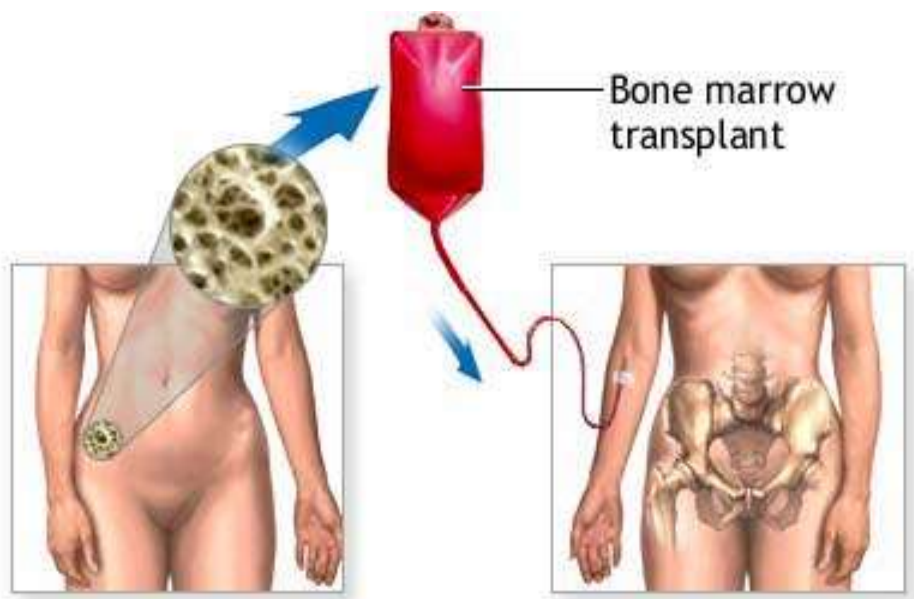
- ⦿ Blood transfusion
- ⦿ Antibiotic therapy
- ⦿ Antifungal
- ⦿ Aseptic measures



## Restore the function of the bone marrow

- ⦿ **Testosterone** sublingually on a daily basis or as an IM injection monthly
- ⦿ Side effects-musculinization- hirsutism, acne, enlargement of the penis or clitoris & deepening of the voice
- ⦿ **Corticosteroids** Prednisone 10-20mg/kg/day for 10-15 days
- ⦿ **Immune therapy-Antilymphocytic globin (ALG)**
- ⦿ **Antithymocyte globin (ATG)** 10-15mg/kg/day IV for 4 days & Cyclosporin orally 8-10mg

## **Bone marrow transplantation**



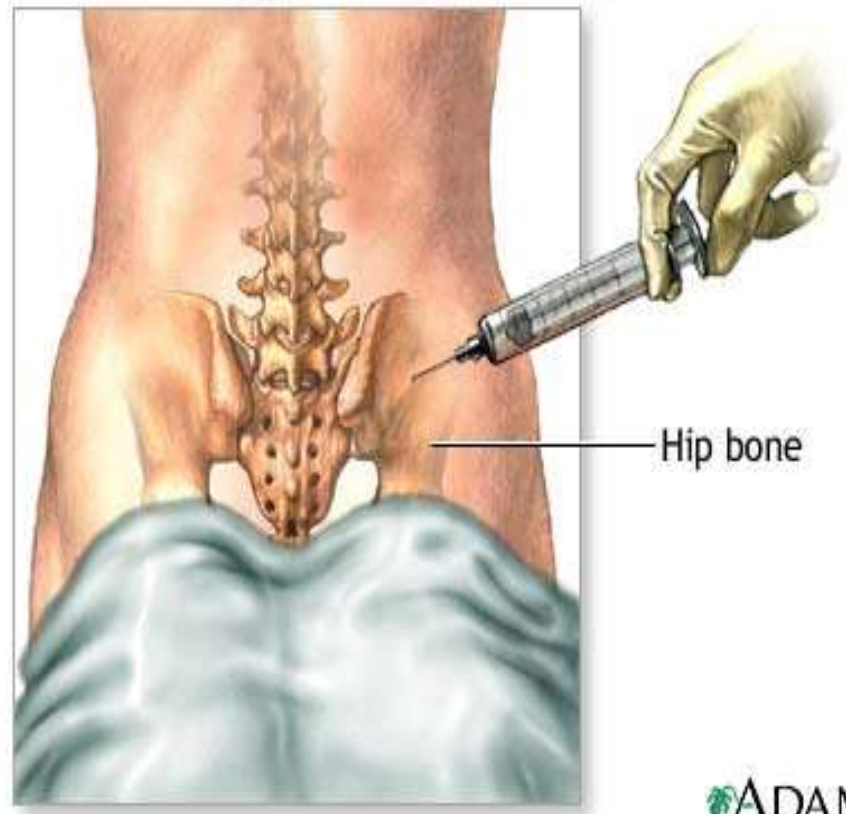
Donor

Recipient

Donor bone marrow cells repopulate recipient bone marrow

© ADAM, Inc.

Harvesting bone marrow from the donor



# NURSING MANAGEMENT

- ◉ Emotional support
- ◉ Therapeutic play
- ◉ IVF Therapy
- ◉ Blood transfusion
- ◉ Observe the side effects of drug therapy
- ◉ Maintain skin integrity
- ◉ Avoid IM injection
- ◉ Check blood counts
- ◉ Mouth care
- ◉ Avoid rectal medication
- ◉ Neurological examination
- ◉ Advice to use helmet
- ◉ Barrier nursing
- ◉ Oxygen therapy



*THANK YOU*

# PROGNOSIS

- ⦿ Poor prognosis
- ⦿ BMT Offers cure
- ⦿ Uncontrollable hemorrhage & infection causes death

## ◎ Bone marrow transplantation



# PATHOPHYSIOLOGY

Etiological factors



Hypoplasia of the bonemarrow



Lack of stem cells in thebone marrow



Less production of blood cells

Decreased  
Platelet  
(Bleeding)

Decreased  
RBC  
(Anemia)

Decreased  
WBC  
(Infection)

