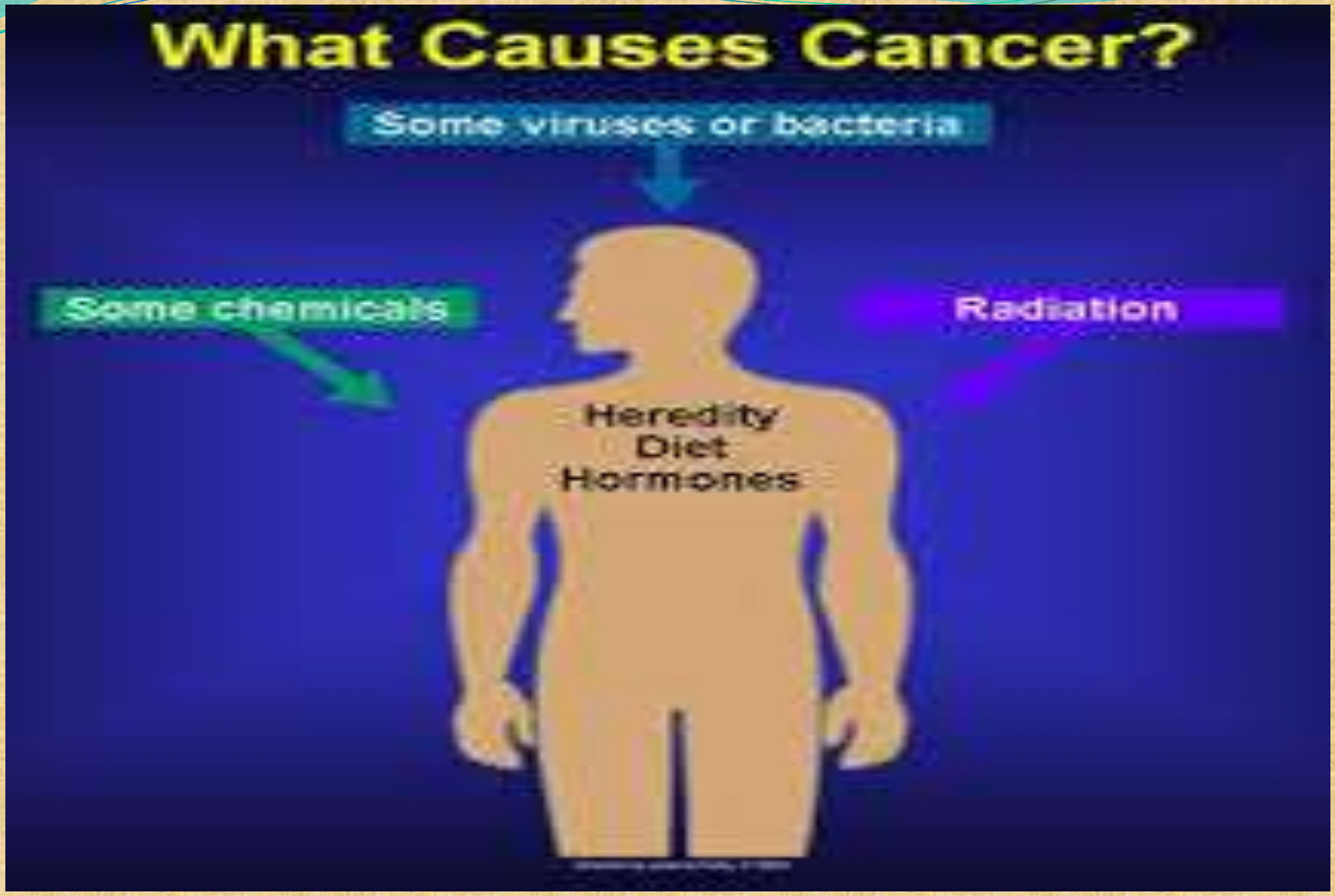
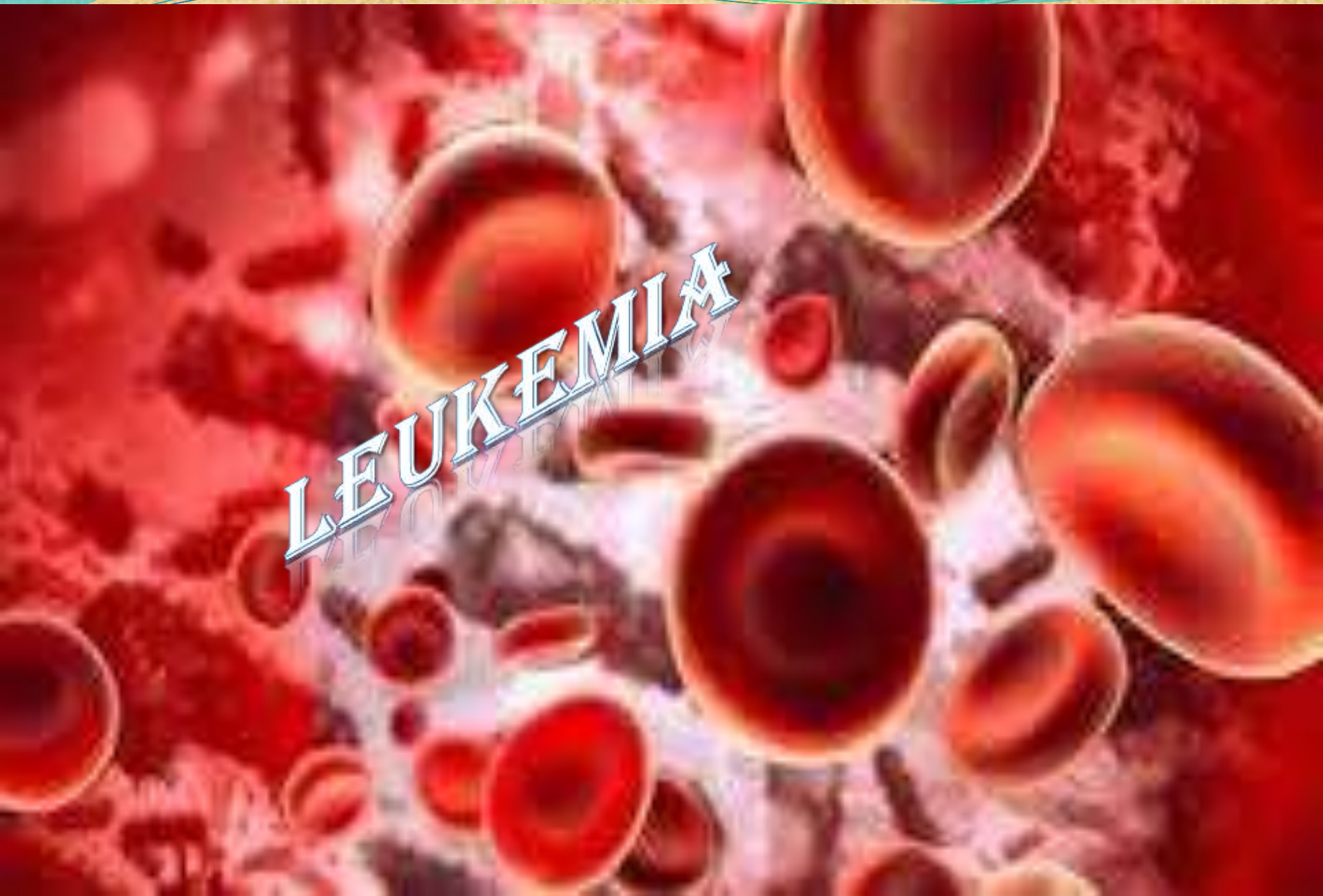
ONCOLOGICAL DISORDERS

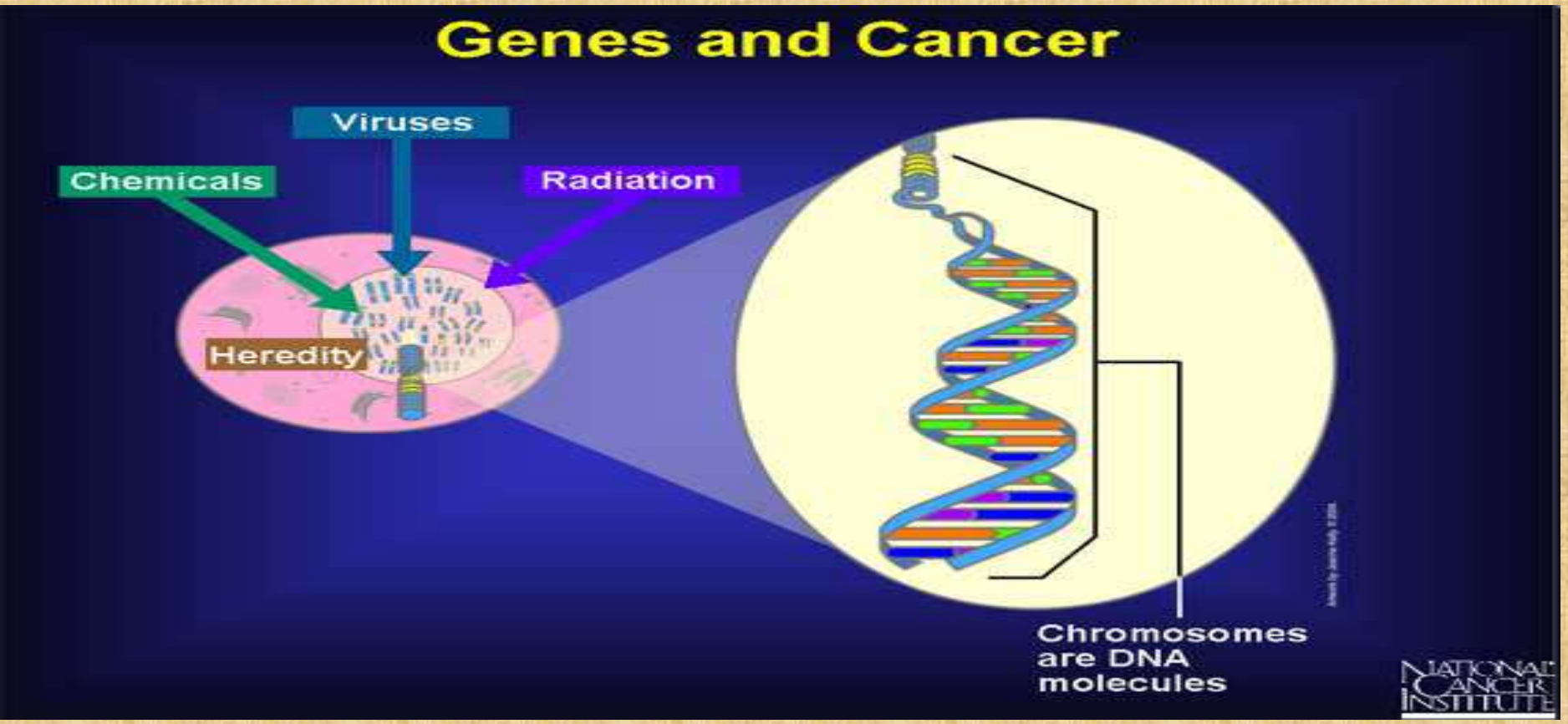

What Causes Cancer?
Some viruses or bacteria
Some chemicals
Radiation
Heredity
Diet
Hormones


LEUKEMIA

DEFINITION:

- Leukemia is the most common type of childhood malignancy characterized by persistent and uncontrolled production of immature and abnormal white blood cells.

ETIOLOGY:


Genes and Cancer
Viruses
Chemicals
Radiation
Heredity
Chromosomes are DNA molecules
NATIONAL CANCER INSTITUTE

CLASSIFICATION:

ACUTE LYMPHOCYTIC LEUKEMIA	• NULL CELL VARIETY • T-CELL VARIETY • B-CELL VARITY
ACUTE NON LYMPHOCYTIC LEUKEMIA	• CHRONIC NON LYMPHOCYTIC LEUKEMIA
CHRONIC MYELOCYTIC LEUKEMIA	• ADULT TYPE • JUVENILE TYPE

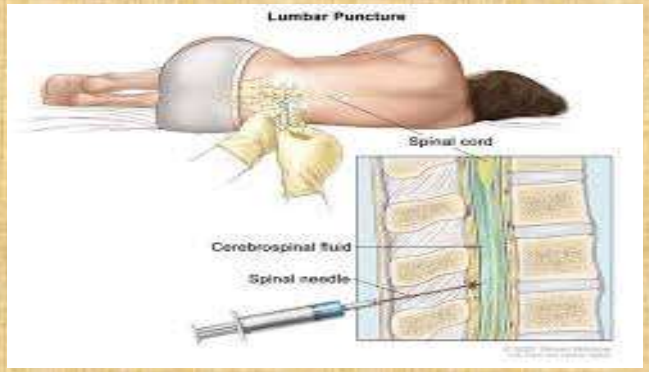
ACUTE LYMPHOCYTIC LEUKEMIA:

- ACUTE LYMPHOCYTIC LEUKEMIA IS A PRIMARY DISORDER OF THE BONEMARROW IN WHICH THE NORMAL BONEMARROW ELEMENTS ARE REPLACED BY IMMATURE OR UNDIFFERENTIATED BLAST CELLS.
- IT IS CHARACTERISED BY ANEMIA,THROMBOCYTOPENIA, AND NEUTROPENIA.

CLINICAL MANIFESTATIONS:

- MALAISE
- WEAKNESS
- PETECHIAE
- PURPURA
- ECHYMOSIS
- PALLOR
- WEIGHT LOSS
- ABDOMINAL PAIN
- BONEPAIN
- JOINT PAIN
- HEPATOSPLEENOMEGALY
- EXCESSIVE BLEEDING

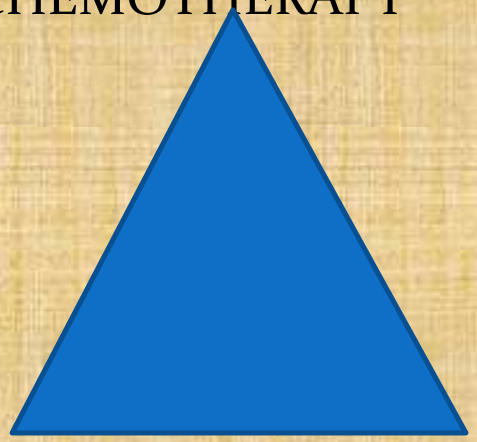
DIAGNOSTIC FINDINGS:



- PERIPHERAL BLOOD EXAMINATION
- BONEMARROW EXAMINATION
- CHEST X-RAY
- CSF ANALYSIS

MANAGEMENT:

CHEMOTHERAPY



- BONEMARROW

TRANSPLANTATION REINDUCTION FOLLOWING RELAPSE

CHEMOTHERAPY:

- INDUCTION
- INTENSIFICATION OR CONSOLIDATION THERAPY
- CENTRALNERVOUS SYSTEM PROPHYLACTIC THERAPY
- MAINTENANCE

CLINICAL MANIFESTATIONS:

- **ANEMIA, LEUKOPENIA AND THROMBOCYTOPENIA**
- **THE CHILD PRESENTS WITH PROGRESSIVE PALLOR**
- **FEVER**
- **ACTIVE BLEEDING**
- **BONE PAIN**
- **GINGIVAL BLEEDING**
- **RECURRENT INFECTIONS**
- **HEPATOSPLEENOMEGALY**

DIAGNOSTIC FINDINGS:

- BLOOD EXAMINATION
- CHROMOSOMAL ANALYSIS OF THE MARROW

MANAGEMENT:

- ANLL Is Managed with chemotherapy .
- Maintenance therapy
- Intra thecal CNS Prophylaxis
- Supportive therapy with blood , platelet transfusion
- IV antibiotic therapy may be required.
- Bone marrow transplantation.

CHRONIC MYELOCYTIC LEUKEMIA:

- DEFINITION:

Chronic Myelocytic Leukemia is characterized by increased numbers of myeloid cells in all stages of maturation both in the blood and bone marrow.

Chronic myelocytic leukemia

CLINICAL FEATURES:

- Malaise
- Weakness
- Progressive massive enlargement of spleen and liver
- Arthritis
- Retinopathy
- Unexplained fever.

DIAGNOSTIC FINDINGS:

- Blood examination
- Bone marrow examination

MANAGEMENT:

- Chemotherapy
- Bone marrow transplantation

CONGENITAL LEUKEMIA:

- True leukemia may occur in the neonatal period and is usally of myelocytic morphology.
- This disease often presents with
  - hemorrhage
  - High white blood cell count

TREATMENT:

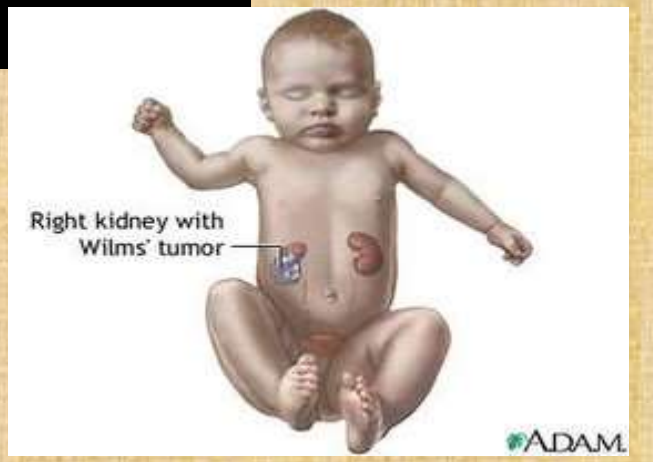
- Supportive platelet transfusion.
- Chemotherapy.

NURSING MANAGEMENT:

- PSYCHOLOGICAL ASPECTS:
- Prepare family for diagnostic / Therapeutic procedures
- Provide continued Emotional Support

- PHYSICAL ASPECTS OF CARE:
- Infections
- Pain
- Nutritional problems


Wilms
Tumor
MAINOMD


Right kidney with
Wilms' tumor
A.D.A.M.

DEFINITION:

- Wlims tumor or Nephroblastoma is a highly malignant embryonal neoplasm that may involve one or both kidneys. Tumor involve the left kidney more frquently than the right kidney.
- INCIDENCE:

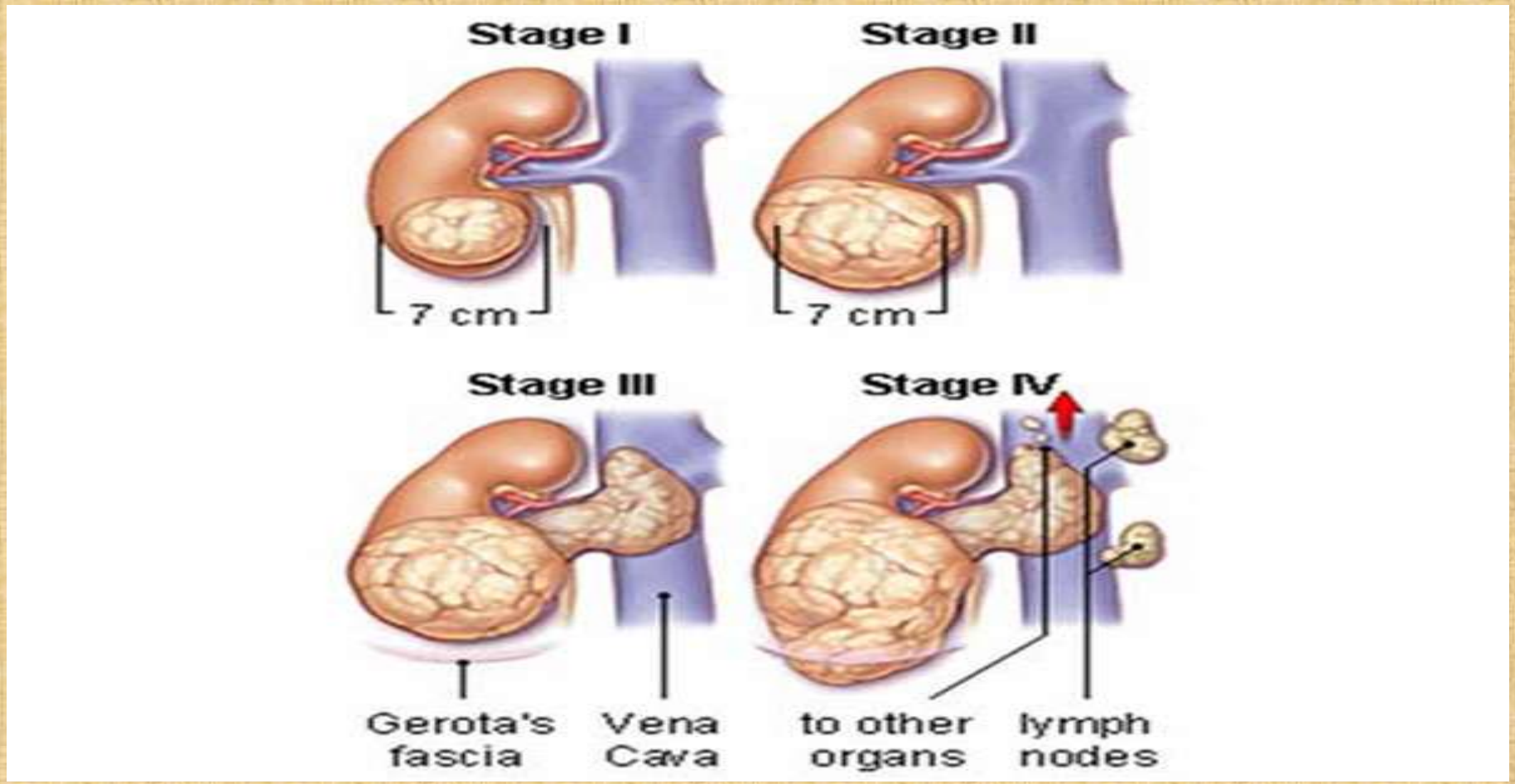
❖ Wilms tumor occurs mostly in young children.

❖ Equal incidence in boys and girls

CLINICAL MANIFESTATIONS:

- Common sign is swelling or mass with in the abdomen
- Hematuria
- Anemia
- Pallor
- Anorexia
- Lethargy
- Hypertension
- Weight loss
- If Lung involvement: dyspnea
- Cough
- Shortness of breath
- Pain in the chest

STAGES OF WILMS TUMOR:



MANAGEMENT:


Surgery
Removal of cancer cells using surgery
Radiotherapy
Destruction of cancer cells using radiation
Chemotherapy
Destruction of cancer cells using drugs (anti-cancer agents)

NURSING MANAGEMENT

- PROVIDING EMOTIONAL SUPPORT
- PREPARING PARENTS AND CHILD FOR DIAGNOSTIC PROCEDURES
- ASSISTING WITH THERAPEUTIC MANAGEMENT
  - Surgical management
  - Radiation therapy
  - Chemotherapy

LYMPHOMA

- The lymphomas, a group of neoplastic diseases that arise from the lyphoid and hemopoitic systems, are divided into

Hodgkin Lymphoma

Non-Hodgkin Lymphoma

HODGKIN LYMPHOMA

- **DEFINITION:**

Hodgkin`s disease is a malignancy of the lymphoid system . It develops in one lymphnode, most frequently a lymphnode in the neck and over a period of weeks, months or even years the disease may spread to other organs of the body.

CLASSIFICATION:

- Lymphocytic predominance
- Nodular sclerosis
- Mixed cellularity
- Lymphocytic depletion.

CLINICAL STAGING :

- STAGE – I: Involvement a single lymph node region(I)or a single extra lymphatic organ or site.
- STAGE-II: Involvement two or more lymph node regions on the same side of the diaphragm.
- STAGE-III: Involvement of lymph node regions on both sides of the diaphragm, which may also be accompanied by localized involvement of extra lymphatic organ or site.

- STAGE-IV: Diffuse or disseminated involvement of one or more extra lymphatic organs or tissues with or without associated lymph nodes enlargement.
- SUBDIVISIONS:

Class A: No defined symptoms.

Class B: Symptoms include :

- Un explained weight loss of more than 10% of body weight in 6 months prior to diagnosis.
- Un explained fever with temperatures above normal temperature.
- Night sweats.

CLINICAL MANIFESTATIONS:

- Characterized by painless enlargement of lymphnodes.
- Common finding is **enlarged, firm, non tender, movable nodes in the supra clavicular or cervical area.**
- In children the Sentinel node located near the left clavicle may be the first enlarged node,
- Mediastinal lymphadenopathy may cause a persistant non productive cough.

ASSESSMENT AND DIAGNOSTIC FINDINGS:

- History collection
- Physical examination
- Blood tests
- Radiographic tests
- Lymphangiography
- Lymph node biopsy
- Bone marrow aspiration

MANAGEMENT:

- The histological type and clinical staging of disease will determine the treatment regimen.
- Basically children and adolescents who present with localized disease are treated with **Radiotherapy** alone.

❖ Involved field radiotherapy

❖ Extended field Radiotherapy

❖ Total nodal irradiation

- **CHEMOTHERAPY:**
- **NURSING MANAGEMENT:**

NON- HODGKIN LYMPHOMA

- Non-Hodgkin`s lymphoma is the term used to describe a group of solid tumors that may originate in any of the lymphatic tissues of the body.
- **INCIDENCE:**

  The peak occurence of NHL is between 7 and 11 years of age, with median of 9 years of age

CLINICAL STAGING:

- Primary sites and symptoms in Non Hodgkin`s Lymphoma:
- INTRA-ABDOMENAL
- MEDIASTINUM
- PERIPHERAL NODAL
- NASOPHARYNGEAL

DIAGNOSIS:

- Hematological studies
- Radiographic studies
- Bone marrow aspiration
- Lumbar puncture
- Biopsy

MANAGEMENT:

- SURGERY
- RADIATION THERAPY
- COMBINATION OF CHEMOTHERAPY

RHABDOMYOSARCOMA:

- DEFINITION: Rhabdomyosarcoma malignant neoplasms originate from undifferentiated mesenchymal cells in muscles, tendons, connective lymphatic or vascular tissue.

SUBTYPES:

- Embryonal- Most common, frequently found in head, neck, abdomen and genitourinary tract.
- Alveolar- Second most common type, most often seen in deep tissues of the extremities and trunk.
- Pleomorphic- Rare in children, most often occurs in soft parts of extremities and trunk.

STAGES:

- GROUP I :Tumor completely resected and regional nodes not involved.
- GROUP II: Localised disease with microscopic residual or regional disease with no residual with microscopic residual.
- GROUP III: Incomplete resection or biopsy with gross residual disease.
- GROUP IV: Metastastis disease present at diagnosis.

- CLINICAL FEATURES
- DIAGNOSTIC FINDINGS
- TREATMENT
- NURSING MANAGEMENT.

RETINOBLASTOMA

- DEFINITION: Retinoblastoma, a malignant tumor of the embryonic neural retina. It is the most common primary malignant intraocular tumor of childhood.

CAUSES:

- A Somatic mutations
- A germinal mutations
- A chromosomal aberrations:

Stages:

Group I
Group II
Group III
Group IV
Group V

- CLINICAL MANIFESTATIONS
- DIAGNOSTIC FINDINGS
- MANAGEMENT
- NURSING MANAGEMENT

BONE TUMORS

- DEFINITION: Osteosarcoma usually involves the metaphyseal end of a long bone; the lower end of the femur or the upper end of the tibia or humerus.
- PATHOPHYSIOLOGY
- CLINICAL MANIFESTATIONS
- DIAGNOSTIC FINDINGS
- MANAGEMENT
- NURSING MANAGEMENT

EWING SARCOMA:

- DEFINITION: The most common bone tumor in children,Ewing sarcoma involves the shaft of a long bone.
- It may also involve the flat bones and ribs.
- PATHOPHYSILOGY
- CLINICAL FEATURES
- DIAGNOSTIC FINDINGS
- MANAGEMENT

HEPATOBLASTOMA

- PATHOLOGY
- CLINICAL MANIFESTATIONS
- DIAGNOSTIC FINDINGS
- TREATMENT.

NUROBLASTOMA:

- DEFINITION: Neuroblastoma, a tumor that arises from primitive neural crest cells that form the adrenal medulla and sympathetic nervous system.
- **STAGES:**
- **Stage I**
- **Stage II**
- **Stage III**
- **Stage IV**
- **Stage V**

- CLINICAL MANIFESTATIONS
- DIAGNOSTIC FINDINGS
- MANAGEMENT
- NURSING MANAGEMENT.

BRAIN TUMORS:

- DEFINITION:
- INCIDENCE:
- CAUSES:
- PATHOPHYSILOGY
- CLASSIFICATION:
- Medulloblastoma
- Cerebellar astrocytoma
- Ependymoma
- Brainstem glioma

- CLINICAL MANIFESTATIONS
- DIAGNOSTIC FINDINGS
- TREATMENT
- NURSING MANAGEMENT: