PAPER:WBC AND PLATLETS DISORDERS

QNO3**:LEUKEMIA:**

 IT is a type of blood bone marrow cancer charatareszed by elevated abnormal production of WBC .

**CAUSES:**

1**.Hereditory: Downsyndrom it is cromosomal abnormality**

**2. Enviromentel factor:**

 Ionization and radiation , chemical (CARCINOGEN ) ,CERTAIN DRUG,Association with disease of immunity (AIDS)

 **3. Infection:**

 Due to some infection also cause leukemia.

 **4.Smoking**:

 Leukemia also cause by smoking .

 **5.Chemical :some exposure to chemical .such as benzene can cause leukemia .**

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**QNO 4:DIFFERENCE BETWEEN CHRONIC AND ACUTE LEUKEMIA.**

Chronic leukemia

 ,It is slowly developing leukemia .

 ,Chronic leukemia develop inmature cell

 ,Chronic leukemia develop slowly so patie

 ,Have no symptoms fore a long period of

 Time

 ,As a result chronic leukemia is less sever

 ,And spread more slowly then acute.

 ,in this condition stem cell produce cell but not proper function

2 ACUTE LEUKEMIA..

 This type of leukemia progress quickly ,the cell are multiply very

 Quickly,

 The acuke leukemia are more sewere then chronic leukemia in

 This condition sever stmptom then chronic leukemia,

 Fore acute leukemia you have to get treatment suddenly

 Because otherwise the disease will progress.

QNO 6;

 **CHRONIC MYLOID LEUKEMIA**:

 It is a type of white blood cell cancer , it is a form of leukemia characterized by the increase and unregulated growth of myloid cell in the bone marrow and the accumulation of these cell in the blood.

**,chronic myloid leukemia occr in all age of life .**

Most common in the middle age and elderly

CAUSES :

Exposure to certain rariaton, ionization radiation , for example nuclear accident ,radiation treatment for any disease cancer .

.due to chromosomal abnormality chrosome number 22 an d 9.translocation on these two chromosome.as the molecler pathogenesis chronic myloid leukemia;

**CLENICAL SEGNIFICANCE:**

 SPLENOMEGALY

 ANAEMIA

 BRUISING

 HEMORRAGES FROM OTHER SITE

 EPISTAXIS

 HYPERURECEMIA : HYPERURECEMIA is an excess of uric acid in blood uric acid passess through liver and enter your blood stream .

QNO2**: *CHRONIC PHASE:***

 Approximately 85% of patients are in the chronic phase at the time diagnosis .

 A symptomatic OR have only mild symptoms .

 Blast cell less then 10% .

 No spleenomegaly.

 No anemia.

 Thrombocytosis.

 Duration is variable .

 **Acclerated phase:**

 Tent to ninteen percent blast cell blood .

 Less then twenty percent basophils in the blood .

 Platelet count greater then one lac unrelated therapy.

 Platlet count less then ten lac unresponsive to therapy .

 In addition to the philadelphia chromosome other chromosomal abnormalities may be present .

 Marked splenomagaly and increasing white blood cell count .

 **Blast crises:**

Final phase in the evalution of chronic myloid leukemia .

 Behaves like in acute leukemia.

 Rapid progression and short survival .

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 QNO5**: RAI CLASSIFICATION OF CRONIC LYMPHOCYTIC LEUKEMIA**:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **STAGING** | **LYMPHOCYTES** | **LYMPH NODES** | **SPLEEN** | **PLATELET COUNT** | **SURVIVAL** |
| 0 | increase |  |  |  | 12.5 year |
| 1 | increase | enlarged |  |  | 8.5 year |
| 2 | increase | Enlarged/some | Enlarged  |  | 6 year  |
| 3 | increase | Enlarged/some | Enlarged  |  | 1.5 year  |
| 4 | increase |  |  | Decrease  | 1.5 year  |

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QNO 1**: LEUCOPOIESIS:**

 It is form of hematopiosis in which WBC are formed in bone marrow located in bone an adult organ and liver in fetus .

Leucopiosis are divided into two stages.

Granulopiosis . A granulopiosis .

 ! !

neutrophil Monocyte

 ! !

basophil lymphocyte

 !

Eosinophil

**Stages :**

1.**MYLOBLAST:**

 ,High nuclear ratio and high cytoplasmic ratio .

 ,Nucleus round .

 ,moderate amount of basophilc cytoplasm .

 , one percent in bone marrow .

 2.**PROMYLOCYTE:**

Having both primary in secondary granules .

Chromatin show condensation .

Less then 10% in bone marrow .

4. **Metamyelocyte :** Nucleus has indented .

C shape nucleus 40% in bone marrow .

5**. Band cell:**

 Band cell are in immature form of neutrophil . which are produce the most commonly in white blood cell .they are essential for fighting diseases .normal count less then 10% .

6**. NEUTROPHIL**:

 They are multy nucleated nucleus .

 Three to four loops .

 Fourty to sixty percent in white blood cell contain neutrophil .

 FUNCTION: They play important role in our innate immune response .

 They are the first cell to migrate to the site of infection mostly in bacterial infection .

**AGRANULOPIOSIS**:IT is a type of haematopoiesis that leads to the production of agranulocytes .

 **STAGES :**

 Stem cell

 Mylomonoblast.

 Promanocyte .

 Manocyte .

 Macrophage

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