**Mid-Term Assignment (spring-20)**

**Course Title:** **WBCs and Platelets disorders (MLT 4TH ) Instructor: Saima hadi**

**Marks: 30**

Attempt all questions .Each question carry 5 marks.

 Q1.What is leucopoiesis , and also explain its types ?

 Q2.Compare all phases (Chronic ,Accelerated, Blast )of CML?

 Q3. Explain Leukemia and its causes ?

 Q4 .Differentiate between Acute and Chronic leukemia?

 Q5. Discuss Rai Classification of chronic lymphocytic leukemia?

Q6.Explain chronic myeloid leukemia causes and symptoms?

Q .1 what s leucopoiesis and also explain its type?

ANS..Leucopoiesis is a form of hematopoiesis in which white blood cells (WBC ,or leukocytes)are foremed in bone marrow located in bone’s in adults and hematopoietic organ in fetus.

 OR

The formation and development of white blood cell’s.

* Types of leucopoiesis.
* Can be divided into two major categories.

(1)Myelopoiesi (Granulopoisis,Granulocyte)

(2)Lymphopoiesis(Agranulocyte)

1 :Granulopoisis are sub divided into .

,Neutrophile,Esenophil,Basophile

2 ;Agranuloposis are sub divided into :

Monocytes ,lymphocytes

Granulopoisis

🡺Maturation divided into six stages

1:structure change

2:A decreased in cell siz.

3;condensation of chromatin

4:change in nuclear shape.

5:An accumulation of cytoplasmic granules.

Stages of Garnulopoisi

1)Myeloblast

2)Promyelocyte

3)Myelocyte

4)Metamyelocyte

5,Band cell

Granulocytopoes(granulocyte)

 Myeloblast. ,,promylocyte

1 NEUTOPHLC

Myelocyte🡪metamyelocyte🡪neutrophilic stab cel🡪Neutrophil

2 EOSINOPHILIC

Myelocyte🡪metamyelocyte🡪eosnphlc stab cell🡪eosinophli

3 BASOPHLC

Myelocyte🡪metamyelocyte🡪basophilic stab cell🡪basophil

2🡪AGRANULOPIOSIS

Myelod stem cell

Myelomonoblast🡪promonocytes🡪monocytes(blood(

Macrophage (tissuse

2🡪Lymphoposis.

Lymphoid stem cell🡪lymphoblast🡪prolymphoblast🡪lymphocytes

Q NO3.Explan leukemia and cases ?

Ans🡪leukemia or leukaemia is a type cancer of WBC and bone marrow ,when a person has leukemia the body creates too many WBC (Leukocytes)

 Or

A very serious disease in which the body forms too many WBC.

Or

Leukemia is a treatale disease most treatment involves ,chemotherapy,medical radiastion therapy,or human trearments.

An acute or chronic disease of unknown cause in human and other warm –blooded animals that involves the blood forming organs is characterized by abnormal increase in the Number of WBC in the tissue of the body with or without a corresponding increase of those in the circulating to the type of WBC.

CAUSES OF LEUKEMIA

Leukemia occurs when abnormal WBCs in the bone marrow quickly increase and destroy normal blood cells.

🡪1 working with certain chemicals/environmental factor

Ionization rediation

Benezne caused leukemia

Certain drugs

Smoking,

🡪Down syndrome and certain other genetic disease(abnormal chromosome)

QNO 3:EXPLAIN MYLOID LEUKEMIA CAUSES AND SYMPTOM?

ANS:An indolent (slow –growing )caner in which too many myloblast are found in the blood and bone marrow .myloblast are type os immature blood cell that make white blood cell callad myloid cell.

Chronic myloid leukemia (CML)

Is a type of cancer that affects the white bllod cells and tends to progress slowly over many years.

Causes:

Fever,fatigue,easybleeding,anemia,infection,a swollen spleen, bone pain,.

🡪SYMPTOMS OF CHRONIC MYLOID LEUKEMIA:

CML; dose not usually causes any symptoms in its ariy stages and may only be picked up during tests carried out for another reason.

->Tiredness

Weight loss

Night sweats

Tenderness and swelling in the left side of your tummy.

Pale skin and shortness of breath.

Feeling full after small meals

Bone pain

Q NO 4 >DIFFRENCE B/W CHRONIC AND ACUTE LEUKEMIA

ANS.. ACUTE LEUKEMIA

Acute leukemia is chracteris by rapid increase in the number of immature blood cells .crowding due to such cells make the bone marrow unable to produce healthy blood cells.immediat treatment is required in acute leukemia due to the rapid progression and accumulation of the meleignant cell,which then spill our and to the blood stremand to spread to other organs to the body.acute form of leukemia are the most form of leukemia of childeran.

CHRONIC LEUKEMIA:

Is characterized by the excessive build up of relatively mature ,but sill , abnormal WBCs.typically taking months or years to progress,the cells are produce at much higher rate .chronic leukemia mostly occure in olders peoples and but theortically

Occure in any age group

QNO5.DSCUS RAI CLASSFCATION OF CHRONIC LYMPHOCYTIC LEUKEMIA?

ANS

STAGE CLINICALLY RISKE LEVEL SURVIVAL RATE

Stage0 lymphocytoss low 12year

Stage1 lymphocytosist mild 08year

 (adenopatliy)

Stage2 lymphocytosist 08years

 (hepatosplenomgly) mild 08years

Stage3 anemia high 02---03years

Stage 4thrombocytopenia high 02---033years

🡪Binet classification (attred binet)

🡪stage organ enlargement Hb g/l platelets

Stage a(50—60%) 0,1,or 2areas normal normal

Stage b(30%) 3,4,5,areas >10 above 1 lack

Stage c (20%) not consider less<10 below 1 lack

Q NO 2; COMPARE ALL PHASE (CHRONIC,ACCELERATED ,BLAST CRISES)?

Ans chronic phase

Approximately 85%of patients are in the chronicphaseat the time of diagnosis

Asymptomatic or have only mild symptoms

Blast less than 10%

No splenomegaly

No anemia

Thrombocytosis

Duration is variable

May progress to an accelerated phase

2ACCELERATED PHASE

10—19% blast in the blood or bone marrow

>20%basophils in the blood or bone marrow

🡪Platelet count >1,000,000,unresponsive to therapy

🡪In addition to the Philadelphia chromosome other chromosome abnormalities may be present
🡪marked splenomegaly and increasing whiteblood cells count unresponsive to therapy.

3BLAST CRISES

🡪Final phase in the evolution of CML

🡪Behaves like an acute leukemia

🡪Rapid progression and shjort survival

🡪Diagnosis based on the presence of:

>20% myeloblasts or lymphoblast in the blood or bone marrow

🡪Large clusters of blasts in the bonr marrow on biopsy

🡪Development of a chloroma (solid focus of leukemia outside the bone marrow