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Paper Hematology

Q:1Discus developmental stages of erythropoiesis ?

ANS; stages of erythropoiesis;

1.pro erythroblast;

.earlist erythriod element.

.basophilic cytoplasam with a perinuclear halo

Nuclear chromatin is not homogenous

2.Basophilic erythroblast;

Smaller than pre eryothroblast

Nuclear chromatin shows

Cytoplasam is basophilic

3.Polychromatophilic erythroblast

Polymesia means having same colors

Nucleus matare and condensed

Cytoplasam has a gray hue derived from hemoglobin HB

4.orthochromtic erythroblast/late normoblast;

Acdophilic erythroblast which is the last precursor with a nucleus

Nucleus is compact and situated near the membrane.

5.Reticulocyte;

Young erythrocytes with a granular or reticular

Make up 0.5-2% of all erythroctes

6;reticulocytes as seen under SEM ( scanning electron microscopy )

6.mature non nucleated erythrocytes;

Reddish circular biconcave cell

7-8

no visible internal structure

Bright at centre due to bicancave shape………

* qra: Q:3.Briefly explain Granulupoiesis in detail?
* ANS;Granulupoiesis;
* Granulupoiesis is the process by which committed progenitor cells develop into granulocytes under the influence of various growth factor and cytokines
* FORMATION OF NEUTROPHILLS;
* Myeloblast.an early precusar cell,diameter 15-20 lower nuclear cytoplasmic ratio,no cytoplasmic granules.
* Large cell witH a large nucleus and which demonstrate basophilic staining this stage exists for all granulocytes.
* PROMVElOCTES;
* This is the next stage of muturaition similar in size apperance to myloblast .
* Like myeloperoxidase acid phosphate beta galactosidase.
* MYLOCYTES;
* Secondary granules becomes apparent
* Increase size and smaller primary granules
* Nuclues become indented.

METAMYLOCYTES;

Next stage in mylopoiesis is a cell having more indented and smaller nucleus and having more granules

MATURE NEUTROPHILS

Arise from stem cells in approx 10

 Q:2 Enlist common causes of poor blood filam(blood smear).

ANS;A filam are peripheral blood smear is thin layer of smeared on a microscope slides and then stained in such a way to allow the various blood cell to be examined microscopically.

Common causes of a poor blood smear;

Drop of blood too large or too small.

Spreader slide pushed across the slide in jerky manner.

Failure to keep the entire edge of the spreader slide against

Failure to keep the spreader slide at 30 degree angle with the slide.

Edge of spreader dirty or chipped,dusty slide

Holes in filam;slides contaminated with fat or grease.

Cellular degenerative changes;delay in fixing indequate fixing time.

 Q:4 What Is iron deficiency Anemia? Also discuss its causes

Ans;: Anemia

A decrease in haemoglobin level (or total circulating red cell mass) for the age and sex of a person is called as anemia.

: Causes of iron deficiency anemia

: Chronic blood loss

Uterine

Gastrointestinal, e.g. peptic ulcer, oesophageal varices, aspirin (or other non - steroidal anti -infl ammatory drugs) ingestion, partial gastrectomy, carcinoma of the stomach, colon or rectum, hookworm,angiodysplasia, colitis, piles, diverticulosis Rarely, haematuria, haemoglobinuria, pulmonary haemosiderosis, self - inflicted blood loss

Q:5. Classify anemia on the basis of morphology with examples.

ANS;-

Anemia

A decrease in haemoglobin level (or total circulating red cell mass) for the age and sex of a person is called as anemia.

CLASSIFICATION

On the basis of morphology and with regard of red cell indices we can classify the anemia into following .

1. Microcytic Hypochromic Anaemia

In this type of anaemia individual RBCs are smaller in size than normal and contain a subnormal amount of haemoglobin.

This type of anaemia is commonly seen in following

 Iron deficiency

 Thalassaemia

 Sideroblastic anaemia

 Anaemia of chronic disorders

2. Macrocytic Anaemia

In this type of anaemia individual RBCs are larger than normal, but the amount of haemoglobin in each cell is usually below normal.

Examples are.

 Megaloblastic anaemia

 Aplastic anaemia

 Haemolytic anaemia

 Liver disease

 Myxoedema

 Hypopituitarism

 Pregnancy

 Alcoholism

3. Normocytic Normochromic Anaemia

In this type of anaemia, although the haemoglobin concentration in the blood is reduced, the individual RBCs appear normal and absolute values are also within normal limits.

Examples are.

 Acute blood loss

 Leukaemia

 Bone marrow infiltration

 Chronic renal failure

 Chronic infections (chronic disorders)

THANK YOU