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Paper: physiology

Date: 2020:25:6

Q:1 .write a note on pituitary gland,its hormones and abnormalities ?

0. Answer: pituitary gland

pituitary gland is located in the brain,under the hypothalamus.its function are controlled by hypothalamus .pituitary gland is red grey pn colour. It is about the size of a large pea it is ovoid in shape.it is about 0.5gm in adult human.it is also called the master gland because it produces hormones that control other gland and many body function,including growth.

The pituitary consists of the anterior and posterior pituitary

Hormones secreted by pituitary gland

1.Anterior pituitary

Growth hormone

Prolactin

Adrenocorticotropin hormone

Thyrotropin hormone

Luteinizing hormone

Follicle stimulating hormone

2.Posterior pituitary;

Oxytocin

Antidiuretic hormone

Abnormalities:

over secretion of growth human during early life causes gigantism tallness while its under_ Secretion result in dwarfism .(dwarf of short body)

Q:2.What is erythrocyte,erythropoiesis,erythrocytosis and erythropenia?

Answer:

Erythrocyte:.

A type of blood cell that is made in the bone marrow and found in the blood.

Erythrocytes contain a protein called hemoglobin,which carries oxygen from the lung to all part of the body.

(Rbc)red blood cells or erythrocytes are the most abundant type of blood cell approximate 2.4 million new erythrocytes are produced per second

RBCs-function

The Hemoglobin is an excellent acid-base buffer.

Maintenance of acid-base balance.

Blood group determination.

Erythropoiesis:.

(From greek "erythro" meaning "red" and "poiesis" meaning to make ")is the process which produces red blood cell,which is the development from erythropoietic stem cell to mature red blood cell .

It is stimulated by decreased O₂ the circulation, which is detected by the kidneys.

Red blood cell

According to size :.

Normocytes-normal sized RBCs

Microcytes- small sized RBCs

Macrocytes- large sized RBCs

According to colour

Normochromia-normal coloured RBCs

Hyperchromia-darker,due to increased hemoglobin

Hypochochromia- paler,due to decreased hemoglobin

They are determined by measuring the:

Mean corpuscular hemoglobin (MCH) mean corpuscular hemoglobin concentration (MCHC)

Erythrocytosis:

Erythrocytosis is increased production of red blood cell.

If the erythrocyte count is more than normal such state is called

erythrocytosis.

Physiological

>Absolute

In high altitude.

Pathological

> Primary

Bone marrow disorder

Relative

Exercise

> Secondary

Due to any cvor respiratory disease

ERYTHROPENIA

The presence of decreased number of erythrocytes in the blood, as occurs in some forms of anaemia also called erythropenia

(Or)

The deficiency of red blood cell also called erythropenia

Erythropenia

> Physiological Pathological

> absolute

Deficiency of
Production

> primary

Bone marrow
disorder

> Relative

-pregnancy
(RBC dissolves in
Fluid)

> secondary

>secondary
Due to any
Kidney disease

Q:3. what is platelets and write about clotting mechanism and its all steps

Answer

Platelets:

Platelets or thrombocytes are small

Colourless fragments in our body that form clots or stop or prevent bleeding. Platelets are made in bone marrow, the sponge-like tissue inside our bones.

A normal platelet count ranges from 150,000 to 450,000 platelets per microliter of blood.

Mechanism of blood clotting:

Blood is a necessary component of the human body, and the loss of this fluid may be life-threatening. The human body protects against loss of blood through the clotting mechanism. Vascular mechanism, platelets, coagulation factors, prostaglandins, enzymes, and proteins are the contributors to the clotting mechanism, which act together to form a transient plug as a cork for the leakage of blood.

Steps of mechanism (adhesion)

1. Aggregation
2. ADHESION
3. Activation
4. FIBRIN deposition

Q: 4 what is detail note on ABO system?

Answer:

ABO system:

The ABO blood group system is the most important in blood transfusions.

In 1900 Karl Landsteiner reported a series of tests which identified the ABO blood group system.

It is inherited from parents.

It is determined on the basis of presence or absence of antigens A and B which are carried on the surface of the red cell.

This is the blood group system in which antibodies are constantly, predictable and naturally present in the serum of people who lack the antigens.

Blood group antigens are actually sugars attached to the red blood cell. Antigens are built onto the blood cells. Individual inherited a gene which codes for specific sugar to be added to red blood cell. The type of sugar added determine the blood group .

Genetics

The ABO gene do not code for the production of ABO antigens.

ABO produce a specific glycosyl transferases that add sugar to a basic precursor substance on RBCs

Q:5. A person fell from a tree and become unconscious, with bleeding from head, what will you do as a first aid?

Answer

part (a) :

First first aid I will give him, firstly I will take that man to a suitable place and then I will check his injury and according to the injury I will take my first step toward my first aid after examining the injury my first step will be to stop the bleeding and for that purpose I will wash the injured place with mild hot water and then I will wash it out with any antiseptic liquid after that I will cover the injured place with cotton and fasten the bandage

Part (B):

If they have covid positive then we can test for covid. When we have not covid positive then we take 6 feet distance from her. And take necessary precautions. Such as we take mask and gloves. Use sanitizer and wash hand after 15 minutes.

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