FINAL TERM ASSIGNMENT

Course Title: *WBCs and Platelets disorders (MLT 4TH).*

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BS, MLT 4th.

Q1) describe von wille brand disease?

Von wille brand disease

Von Willebrand disease (vWD) was first described in 1926 by a Finnish physician named Dr. Erik von Willebrand.

Most researchers agree that von Willebrand disease is the most common genetic bleeding disorder.

Van von wille brand disease is a blood disorder in which the blood does not clot properly. There are many proteins in the blood that help the body stop bleeding. One of these proteins is called the VanWilbrand Factor von wille brand Factor. People with von wille brand disease have low levels of VanWilbrand Factor in their blood or von wille brand Factor protein does not work as it should.

When a person is injured and begins to bleed, the VanWilbrand Factor in the blood attaches to small cells called platelets. This allows the platelets to stick together like glue to prevent clotting and bleeding at the site of injury. When a person has Van Von wille brand disease, because VanWilbrand Factor does not work the way it should, it may take longer to clot as it should or may not, and it may take longer to stop bleeding It can cause heavy, hard, solid bleeding. Although rarely, bleeding can damage the joints and internal organs, or even be fatal.

Types

The following three types Von wille brand disease,

Type A1

This is the most common and minor form of Von wille brand disease, in which one person is below the normal level of VanWilbrand Factor. A person with type

A1 Van Von wille brand disease may also have low levels of factor VIII, another type of protein that builds up in the blood. It should not be confused with hemophilia, which has low levels or complete deficiency of factor VIII but normal levels of VanWilbrand Factor. About 85% of people treated for Von wille brand disease are type A1.

Type B2

This is the most severe form of Von wille brand disease, in which a person has very little or no VanWilbrand Factor. And low levels of factor VIII. This is the rarest type of Von wille brand disease. Only 3% of people with Von wille brand disease have Type B2.

Type C3

With this type of Von wille brand disease, although the body makes normal amounts of the VanWilbrand Factor, the factor does not work the way it should. Type C3 is further broken down into four subtypes—2A, 2B, 2M, and 2N—depending on the specific problem with the person's VanWilbrand Factor. Because the treatment is different for each type, it is important that a person know which subtype he or she has.

Causes

Most people Von wille brand disease vWD are born with it. From parents to children, it is almost always inherited or passed on. Von wille brand disease can be passed on to a parent, or both.

Lab diagnosis

-Hemoglobin N/
-Hematocrite N/
-Platelet count Normal and Low in type b2
-CBC.
-Activated partial thromboplastin time increase.
-Fibrinogen Normal.
-Prothrombin time Normal.

The end…

Q2) Explain hemophilia its type's symptoms and lab diagnosis,

Hemophilia,

Hemophilia is a genetic disorder. Hemophilia is an extraordinary disease in which your blood is usually not clot because it reduces the proper of blood clotting protein (clotting factors). If you have Hemophilia, after any injury you can bleed for more time if your blood usually goes to the clot. Small cuts are not usually caused by most trouble. If you have a severe decrease of protein element protein, the maximum concern of health is especially bleeding in your knees, ankles and elbow within your body. This internal bleeding can harm your organs and tissues and it may also be aware.
Hemophilia is a genetic disorder. Treatment includes regular replacement of the specific clotting factor that is reduced.
They do not take more than the ordinary man, but it is more than a little bit of blood. This word came from Greek words The word comes from the Greek words *haima* ("blood") and *philia* ("to love"). The treatment of this, an infected person can get a donation of blood without any Hemophilia. Donor blood has gross proteins and temporarily renewed. 30% Hemophilia A and B case is the first person in his family who is Hemophilia, which is unexpectedly (it means that the unexpected change has occurred in the body) it usually affects men. This goes to the baby from the mothers by genes.
The biggest risk factor for hemophilia is to have family members who also have the disorder.

Types of hemophilia,
There are 3 types of hemophilia:
1) Hemophilia A
Hemophilia A about 90% of cases, there is no blood clotting ability.
2) Hemophilia B
Hemophilia B not as severe, but much less common, There is not enough blood clotting ability.
3) Hemophilia C Hemophilia C caused by not one, but two recessive (weak) genes.

Symptoms
Signs and symptoms of hemophilia vary, depending on your level of clotting factors. If your clotting-factor level is mildly reduced, you may bleed only after surgery or trauma. If your deficiency is severe, you may experience spontaneous bleeding.
Signs and symptoms of spontaneous bleeding include are Unusual bleeding after vaccinations, pain, swelling or tightness in your joints. Many large or deep bruises, Nosebleeds without a known cause, in infants, unexplained irritability,

Lab diagnosis,

Diagnosis includes screening tests and clotting factor tests. Screening tests are blood tests that show if the blood is clotting properly. Clotting factor tests, also called factor assays, are required to diagnose a bleeding disorder. This blood test shows the type of hemophilia and the severity.

The end…

Q3) explain hemolytic uremic syndrome and its types?

What is hemolytic uremic syndrome?

Hemolytic uremic syndrome is a condition that affects blood and blood veins. The result of the blood pressure cells involved in the clotting, the result of the destruction of kidney failure due to the loss of blood cells (blood lack) and the loss of kidney extremely small vessels. Other organs, such as brain or heart, can also affect the loss of very small blood vessels.

Explanation,

Anyone can prepare Hemolytic uremic syndrome, but it is common in small children. In many cases, Escherichia coli is due to some specialty of the bacterial. The first sign of this form of Hemolytic uremic syndrome is several days of diarrhea, which is often not always bloody.

Hemolytic uremic syndrome can also be with other infections, some medicines or conditions such as pregnancy, cancer or self-illness. In some cases, Hemolytic uremic syndrome is the result of some genetic variations. These shapes of Hus do not usually cause diarrhea. . Hemolytic uremic syndrome is a serious condition. But timely and proper treatment usually causes most of the people's most healthy children.

Types

Hemolytic uremic syndrome is considered syndrome because it is a combination of results that may have different reasons. In most cases, there are severe intestinal infections with some poisonous conflicts of bacteria, which are called E. coli. It can also be answered in some medicines, but it's very low. Even more rarely, there is a Hemolytic uremic syndrome for unknown reasons. This factice sheet is mainly focused on the type of Hemolytic uremic syndrome which is found in children and children as a result of E-coli infection.

Transmission

Transmission of the hemolytic uremic syndrome through the contaminated food, responsible for infection that can cause Hemolytic uremic syndrome, the bodies of water that are contaminated with mix can also take E-Coli. Other bacteria can cause diagnosis and Salmonella typhi Hemolytic uremic syndrome.

Symptoms

Usually those children are found that diarrhea (usually bloody). Most children are completely fine with their intestinal disease without developing Hus. However, a bit percent will be light and its energy will be reduced, which is the progress in HUS. Their urine can also be reduced, but the lack of color in the skin is the most impressive sign.

Causes

Infection by *E coli,* shigella, salmonella,

Testing

Blood tests, stool tests.

Treatment,

Treatment with medical care at the hospital, dependent on the volume of fluid is very important. It contains nutrition completion through potentially (IV) fluid and IV or tube feeding. Blood transfer may also be needed. In approximately 50 percent of matters, the treatment of short term kidney change in the form of dialysis is necessary. Most patients who need dialysis fixing kidney functions and ultimately, they are eligible to cure the treatment of dialysis. Sometimes a special form of treatment called Plasma Ferris is also necessary.

The end...

Q4) write a note on Hodgkin lymphoma?

What is Hodgkin lymphoma?

Hodgkin lymphoma is a type of lymphoma in which the cancer begins with a special type of white blood cell called lymphocytes.

The lymphatic system is also involved in the development of vital blood cells called lymphocytes, which help protect you from various infections caused by bacteria, viruses and fungi. When the lymphatic system is fighting an active infection, you may notice that some of your lymph nodes and tissues in the infected area become swollen and tender. This is a normal reaction of the body to the infection.

Lymphoma occurs when lymph node cells or lymphocytes become uncontrollable, producing malignant cells that have an unusual ability to invade other tissues throughout your body.

Types of Hodgkin lymphoma,

The two main types of lymphoma are Hodgkin's lymphoma and non-Hodgkin's lymphoma, which are classified according to the specific characteristics of the cancer cells.

Hodgkin disease is most common in two different age groups: young adults ages 15 to 35 and older adults over 50. It is more common in men than in women, and more common in the Caucasians than in Americans. Due to advances in the treatment of Hodgkin's lymphoma, most people diagnosed with Hodgkin lymphoma will live longer.

Stages of the following are,

Stages of Hodgkin Lymphoma are:

Stage I

Stage 1 Hodgkin Lymphoma, the cancer affects only one lymph node region or organ.

Stage II

Stage 2 Hodgkin's lymphoma; two or more lymph nodes are affected.

Stage III

Stage 3 Hodgkin Lymphoma, cancer can affect the lymph nodes on both sides of the diaphragm.

Signs and symptoms of Hodgkin lymphoma may include are,

•• Sensitivity to the effects of alcohol or pain in your lymph nodes after drinking alcohol,
•• Fever,
•• Night sweats.
•• Painless swelling of lymph nodes in your neck,
•• armpits or groin,

Risk factors,

Risk factors for Hodgkin lymphoma include:

°°Infectious mononucleosis**,**

The Epstein-Barr virus (EBV) can cause mononucleosis. This disease increases the risk of lymphoma.

°°Age,
°°Sex,
°°Family history,
°°HIV infection,

Diagnosis,

Your doctor will ask you about your personal and family medical history. He or she may then have you undergo tests and procedures used to diagnose Hodgkin lymphoma, including:

Testing,

* Blood tests and
* Biopsies

Imaging tests,

* MRI scan
* CT scan
* PET scan
* Ultrasound
*X-ray imaging of the chest, abdomen, and pelvis.

Physical exam

Physical examination, your doctor will examine the swollen lymph nodes, which include your neck, underarms and hips, as well as the swollen spleen or liver.

Treatment,

Which treatment for Hodgkin lymphoma is right for you depends on the type and stage of your disease, your overall health and your preferences. The goal of treatment is to eliminate as many cancer cells as possible and to eradicate the disease, like that Chemotherapy, Radiation therapy, Bone marrow transplant, and Other drugs therapy.

The end...

Q5) what is Hemostasis; also explain steps and clotting factors?

Hemostasis

The term comes from the Greek *hemo which mean* blood + *stasis*, halt = halt of the blood.

Hemostasis is the arrest of bleeding, whether due to normal vasoconstriction (due to temporary closure of vessel walls), by an abnormal obstruction such as plaque, or by coagulation or surgical means such as ligation.

Stopping bleeding or hemorrhage, in addition, the flow of blood through the blood vessels or organs of the body is stopped.

Steps of Hemostasis

Three steps of the following state

1) Vasoconstriction.
2) Plaque
3) Coagulation of blood.

Vasoconstriction,

Intact blood vessels are the center of moderate blood clotting. Intact vessel endothelial cells inhibit clotting by expressing a fibrinolytic heparin molecule and thrombomodulin, which inhibits platelet aggregation and prevents clotting with nitric oxide and prostaglandins. When endothelial injury occurs, endothelial cells block the secretion of clotting and mass inhibitors and instead secrete the von Willebrand element, which causes platelet binding during the initial formation of clots. Vasoconstriction during Hemostasis is a short reflex contraction that causes a decrease in blood flow to the area.

Plaque or platelets plug formation

Here platelets do 2 things
Release both chemicals (thermoboxin and ADP adenosine diphosphate)
fills the gap (injured areas)
Thromboxane and ADP help in platelets aggregations
Glycoprotein act as a adhesive protein
Also localize some factors to sites of platelets plug.

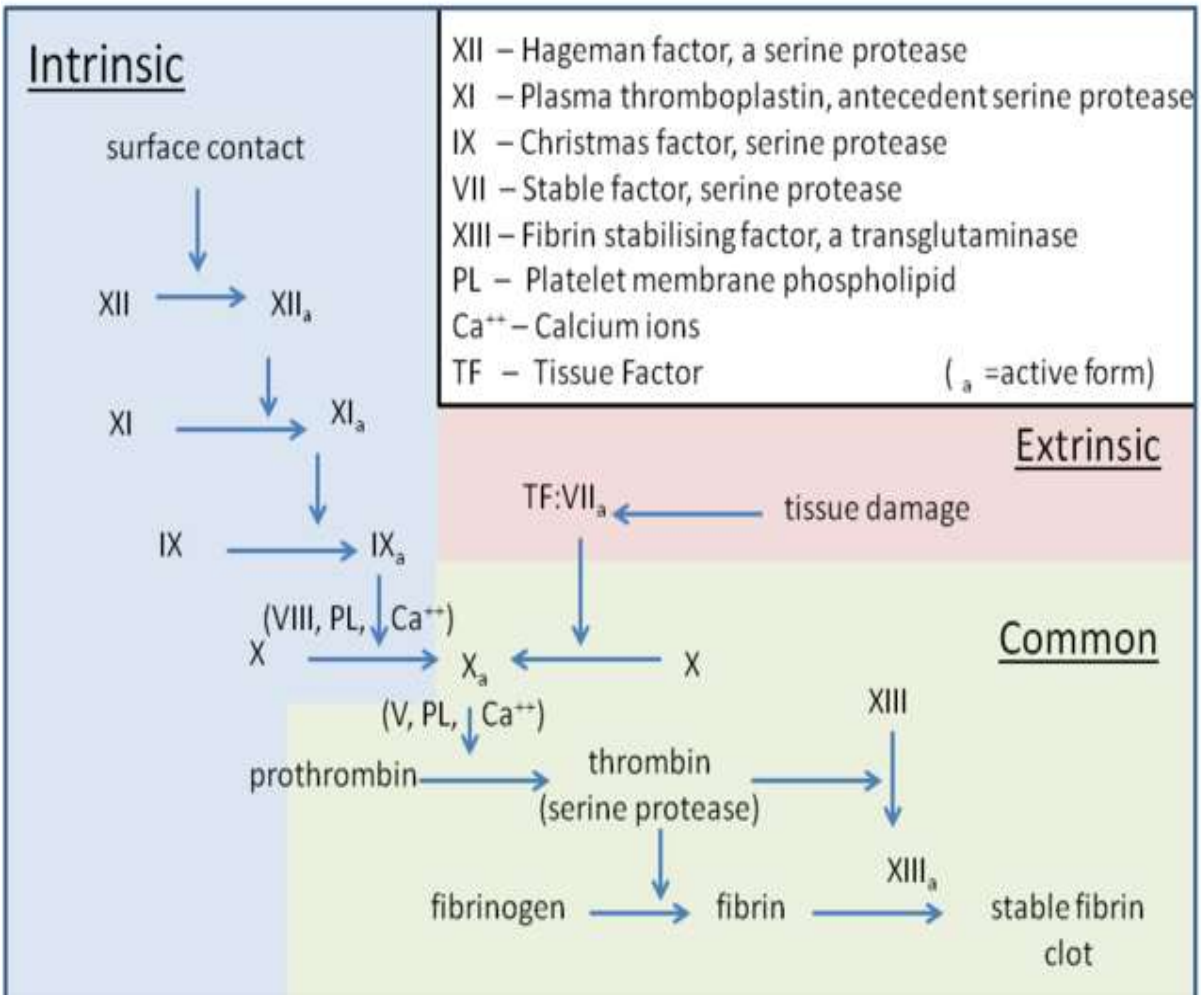
Coagulation of blood,

The process by which blood clots form, Major haemostatic function is responsible for preventing and eliminating bleeding. Contains a coagulation system
There are 13 factors that help in coagulation but factor VI presence not proved still missing, thirteen clotting factors that contribute to different coagulation pathways.

Clotting factors,
Fibrinogen (Factor 1),
Prothrombin (Factor 2),
Thromboplastin (Factor 3),
Calcium (Factor 4),
Proaccelerin or Labile Factor (Factor 5),
Stable Factor (Factor 6),
Ant hemophilic Factor (Factor 8),
Christmas Factor (Factor 9).
Stuart - Power Factor (Factor 10).
Plasma Thrombin antecedent (Factor 11),
Hegman Factor (Factor 12).
Fibrin Stabilizing Factor (Factor 13),

Pathways,
1/Extrinsic pathways,
2/Intrinsic pathways,
3/Common pathways,

The three pathways that makeup the classical blood coagulation pathway



Extrinsic pathway,
This begins after trauma to the body wall and surrounding tissue, cutting the skin,
-Shaving cut
-Cut the knife
-Road accident
-The upper skin and vessels rupture
Factors 3, 7, 4,

Intrinsic pathway,
-Infectious agents; pathogens that clot the blood.

-Factors.12, 11, 9, 8, 10.
This begins in the blood
-Direct blood trauma, not blood vessel injury.

Common pathway,
-Factor # 13 is involved in stabilizing blood clotting.
-That involved in both mechanisms
-factors, 5,2,1,10.

The end...