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Q1. What are the circulating cells in acute inflammation? Also write the characteristics of Acute inflammation.

ANSWER;-

The predominant cell of acute inflammation is the neutrophil. They are attracted to the site of injury by the presence of chemotaxins, the mediators released into the blood immediately after the insult.

The process of acute inflammation is initiated by resident immune cells already present in the involved tissue, mainly resident macrophages, dendritic cells, histiocytes, Kupffer cells and mast cells

Characteristics of Acute inflammation.

1. Rubor (redness)
 2. Tumor (swelling)
 3. Calor (heat)
 4. Dolor (pain)
-

Q2. Write a note on infarction and its types and write a note on Mast cells.

ANSWER;-

Def;- **Infarction**, death of tissue resulting from a failure of blood supply, commonly due to obstruction of a blood vessel by a blood clot or narrowing of the blood-vessel channel. The dead tissue is called an **infarct**.

TYPES

- White infarcts (anemic infarcts)
- Red infarcts (hemorrhagic infarcts)
- Septic infarcts

1. Anemic infarcts

Anemic infarcts is also called white infarcts or pale infarcts caused by arterial occlusions, and are usually seen in the heart, kidney and spleen. These are referred to as "white" because of the lack of hemorrhaging and limited red blood cells accumulation.

2. **Red infarctions (hemorrhagic infarcts)** :- generally affect the lungs or other loose organs testis, ovary, small intestines. The occlusion consists more of red blood cells and fibrin strands. Characteristics of red infarcts include: occlusion of a vein
3. **Septic infarcts** An area of necrosis resulting from vascular obstruction caused by emboli consisting of clumps of bacteria or infected materia

Mast cell

A mast cell is also known as a mastocyte or a labrocyte is a migrant cell of connective tissue that contains many granules rich in histamine and heparin. Specifically, it is a type of granulocyte derived from the myeloid stem cell that is a part of the immune and neuroimmune systems.

Q3. Which are the cells having proliferative capacity? Explain them,also write about the characteristics of Benign tumor?

ANSWER:-

Cells of this type include skin fibroblasts, smooth muscle **cells**, the endothelial **cells** that line blood vessels, and the epithelial **cells** of most internal organs, such as the liver, pancreas, kidney, lung, prostate, and breast

Characteristics of Benign Tumor / Neoplasms

A benign neoplasm looks a lot like the tissue with normal cells from which it originated, and has a slow growth rate. Benign neoplasms do not invade surrounding tissues and they do not metastasize. Thus, characteristics include:

- Slow growth
 - Resemblance to tissue of origin (well differentiated)
 - Circumscription
 - Lack of invasion
 - Absence of metastases
-

Q4. What is hypovolumic shock?Explain along with its conditions.

ANSWER :-

Hypovolemic shock is a life-threatening condition that results when you lose more than 20 percent of your body's blood or fluid supply. This severe fluid loss makes it impossible for the heart to pump a sufficient amount of blood to your body. Hypovolemic shock can lead to organ failure.

Condition :-

Hypovolemic shock is an emergency condition in which severe blood or other fluid loss makes the heart unable to pump enough blood to the body. This type of shock can cause many organs to stop working. This condition requires immediate emergency medical attention.

Hypovolemic shock is the most common type of shock, with very young children and older adults being the most susceptible.

Hypovolemic shock is especially dangerous for older adults because they often do not tolerate having a low blood volume. The risk of complications increases with age, especially if other conditions have already caused organ damage, such as kidney failure or a heart attack.

Symptoms:- 1. Headache, 2. Fatigue, 3. nausea, 4. profuse sweating, 5. dizziness cold or clammy skin, 6. pale skin, 7. rapid, shallow breathing, 8. rapid heart rate, 9. little or no urine output, 10. confusion, 11. weakness, 12. weak pulse, 13. blue lips and fangernails, 14. Lightheadedness, 15. loss of consciousness

Q5. What is Edema? Explain its types also write about the classification of Thrombosis.

ANSWER :-

Edema:-

Edema is the medical term for swelling. Body parts swell from injury or inflammation. It can affect a small area or the entire body. Medications, pregnancy, infections, and many other medical problems can cause edema. Edema happens when your small blood vessels leak fluid into nearby tissues

Types of Edema

1. **Peripheral edema** This usually affects the legs, feet, and ankles, but it can also happen in the arms.
2. **Pedal edema** This happens when fluid gathers in your feet and lower legs. It's more common if you're older or pregnant.
3. **Lymphedema** This swelling in the arms and legs is most often caused by damage to your lymph nodes, tissues that help filter germs and waste from your body.
4. **Pulmonary edema** When fluid collects in the air sacs in your lungs,
5. **Cerebral edema** This is a very serious condition in which fluid builds up in the brain.

6. **Macular edema** This happens when fluid builds up in a part of your eye.

Classification of Thrombosis

1. Venous thrombosis

- Venous thrombosis is the formation of a thrombus (blood clot) within a vein.

2. Deep vein thrombosis

- Deep vein thrombosis (DVT) is the formation of a blood clot within a deep vein. It most commonly affects leg veins, such as the femoral vein.

3. Portal vein thrombosis

- Portal vein thrombosis affects the hepatic portal vein, which can lead to portal hypertension and reduction of the blood supply to the liver. It usually has a pathological cause such as pancreatitis, cirrhosis, diverticulitis or cholangiocarcinoma.

4. Renal vein thrombosis

- Renal vein thrombosis is the obstruction of the renal vein by a thrombus. This is lead to reduced drainage from the kidney.

5. Jugular vein thrombosis

- Jugular vein thrombosis is a condition that may occur due to infection, intravenous drug use or malignancy. Jugular vein thrombosis can have a varying list of complications, including: systemic sepsis, pulmonary embolism.

6. Arterial thrombosis

- Arterial thrombosis is the formation of a thrombus within an artery. In most cases, arterial thrombosis follows rupture of atheroma, and is therefore referred to as *atherothrombosis*.

THANK YOU