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Question No 1.

Answer...

### **ATROPHY**

#### **Defnition**

Partial or complete wastage of tissue organ due to  
Degenrtation of cells.

#### **Physiological Atrophy.**

Often seen when structure that are weel developed and  
required at certain stage of development later .

Example .

Loss of ductus arteriouses in fetus

#### **Pathological Atrophy.**

Discuss atrophy after immbolization in fracture cast .

**Examples.**

- 1) Denervation atrophy
- 2) Ishemic atrophy
- 3) Senil atrophy heart

## **HYPERTROPHY**

### **Definition**

An increase in the size of cell and with . such change an icre

Increase in the size of the organ .

### **Physiological Hyper trophy .**

Physiological growth of the uterus during pregnancy involves both hypertrophy and hyperplasia

### **Pathological Hypertrophy .**

Increase work load hormonal stimulation and growth factor stimulation.

. hypertrophy of heart the most common stimuli is chronic

Hemo dynamics overload.

## **HYPERPLASIA.**

### **Definition .**

An increase in the number of cells in an organ or tissue

Which may then have increased volume .

### **Physiological Hyperplasia .**

Response to need. e.g hyperplasia of the female breast

Epithelium at puberty or in pregnancy

### **Pathologic Hyperplasia.**

Endometrial hyperplasia

Increase Estrogen

Progesterone /Estrogen imbalance

Androgen

## **METAPLASIA.**

### **Definition,**

Metaplasia is a reversible change in which one adult cell type  
Is replaced by another adult cell type

### **CAUSES .**

Change in environment

Irritation of inflammation

Neuroretional

## **Question no 4..**

### **Answer .**

Differences b/w Apoptosis and Necrosis

### **Apoptosis.**

- 1) Apoptosis is the programmed cell death .
- 2) occurs through shrinking of cytoplasm
- 3) A naturally occurring physiological process
- 4) chromatin is aggregated during apoptosis
- 5) Is a caspase dependent pathway
- 6) Is a localized process destroying individual cell

### **NECROSIS .**

- 1) Necrosis is the premature cell death
- 2) Occurs through swelling of cytoplasm along with mitochondria followed by cell lysis
- 3) A pathological process caused by the external agent like toxins trauma etc .
- 4) No structural change and is absorbed in chromatin
- 5) Is a caspase independent pathway
- 6) Affects contiguous cell groups

## Question no 5

### **AIR EMBOLISM .**

Air embolism occur when air is introduced into venus or arterial circulation

An air embolism also called a gas embolism occur when or more air bubbles enter a vein or artery and blockage

### **CAUSES**

#### **Veinous air embolism.**

- 1) Operation on neck and trauma
- 2) Obstretical operation and trauma
- 3) Angiography

#### **Artries air embolism .**

- 1)cardiothoracic surgery and trauma.
- 2) paradoxical air embolism
- 3) Arteriography

#### **Symptoms.**

A minor air embolism may causes very mild symptoms or non act all

- 1) Blue skin hue
- 2) Low blood pressure
- 3) stroke
- 4) muscle or joint paint
- 5) chest pain and heart

#### **TREATMENT .**

- 1) stop the sources of the air embolism
- 2) Resuscitate you . if necessary
- 3) Prevent the air embolism from demaging your body.

## Question NO 3.

### FREE RADICAL.

Any molecule containing one or more unpaired electron

these unpaired electrons readily form free radical molecules which are chemically reactive and highly unstable.

### Effect of (ROS) ON CELLS..

Metabolism are well documented in a variety of species . these

include not only roles . in apoptosis (programmed cell death) but

also positive prefixes such as the induction of host defence genes

and remobilization of ion transport systems this implicates them or

control into cellular function.

### ADVANCEC..

- 1) The differential regulation of cell wall extensibility by ROS is a fundamental and conserved feature to control plant cell size and shape..
- 2) Apoplastic  $H_2O_2$  is taken up by plant cells resulting in potential downstream signaling events..

## Question no 2

### AFFECT OF CALCIUM ION INFLUX TO THE CELL.

Calcium ions contribute to the physiological and biochemistry of organisms

Cells they play an important role in signal transduction pathways where they

act as second messengers in neurotransmitter release from neurons in the contraction of all the muscle cell types and in the fertilization most often in the  $Ca^{2+}$  increase is initiated by increase of  $Ca^{2+}$  from intracellular stores followed by the stimulation of influx of extracellular  $Ca^{2+}$ .

**THE END**