Paper name: Pathology

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***Q.1 (Ans)***

***ATROPHY:***

A general physical process of reabsorption and breakdown of tissue involving apoptosis, When it occur as a result of disease or loss of trophic support because of other disease. It is term as pathological Atrophy, although it can be a part of normal body development and homeostasis as well.

***Example:***

Physiological Atrophy: - Fetal organ, Uterus after parturition

Pathological Atrophy: - Denervation Atrophy, Senile Atrophy

**Hypertrophy:**

It is the increase in the volume of organ or tissue due to the enlargement of its components cell.

***Example:-*** Pathological:-Myocardium in hypertension.

Physiology:-Growth of uterus during pregnancy.

***Hyperplasia:***

The enlargement of an organ or tissue caused by the increase in the rate of reproduction of cell.

**Example:** Physiological: Proliferation of glandular epithelium in breast at puberty.

Pathological: Endometrial hyperplasia -Wound healing.

**Metaplasia:**

It is the transformation of one differentiated cell type into another differentiated cell type.

**Example:**  Physiological – Squamous epithelium to columnar.

Pathological – Columnar to Squamous.

***Q.5 (Ans)***

***Air embolism.***

Also known as gas embolism. It is a blood vessels blockage caused by one or more bubbles of air or other gas in involuntary system. Air embolism may also occur in the xylem of vascular plants, especially when suffering from water stress. Air can be introduced into the circulation during surgical procedure, lung over expansion injury, decompression, and a few other causes.

Diverse can suffer from arterial gases embolism is a consequence of lung over expansion injury.

Breathing gas introduced into the venous system of the lung due to pulmonary barotrauma

will not be trapped in alveolar capillaries.

Example: A bubble entering in intravenous fluid line. But most of these air emboli enter the vines and or stopped at the lung, and thus the air embolism that show any symptoms as very rare.

**Q.2: (Ans)**

When Negative ions influx increased, it increase the Number of Na+ ions inside the membrane which cause Neurotransmitter sacs to rapture due to neurotransmitter releases from synaptic loob and forward the electrical impulse to next neuron or cells.

***Q.3 (Ans):***

Free radical or those atom which have only one electron in their outer shell. When the number of free radical increased it will caused ROS. When ROS occurred it will damage the cell or caused abnormally in the cell

Effect of ros on cell mitabolism or well documented in a variety of species. These include not only rules in apoptosis (programmed cell death) but also positive effect such as the induction of host defencegences and mobilization of

Ion transport system. This implicates them in control of cellular function.

Q.4 (Ans)

***Apoptosis v necrosis:***

Apoptosis is also called programmed cell death in which our body by themselves cause the death of unnecessary cell while necrosis is the accidental death of our body cell

1. There is a shrinkage of the apoptosis cell while cell swilling occure in irreversible cell.
2. The apoptasis cell death always occur on a single cell, necrosis always occur in group of cell.
3. Apoptasis can be both physiological and pathalogical while nacrosis is pathological is always pathological.

The other important distinguishing features is that apoptasis is a silent process since the membrane damage does not occur until the last staoges while in necrosis there is inflammation, since the cell membrane is permeable and hence the damage product are leaked intpo the surrounding leading to cell.