Pathology and Microbiology

DPT-IV

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Question No. 1. Write down any viral or bacterial disease in detail.

Answer**.**

Respiratory viral disease

Respiratory viral diseases are contagious and commonly affected the upper or lower part of your respiratory tract.

Common symptoms of a respiratory viral diseases include

- running or stuff noise
- coughing or sneezing and fever

Examples

Flow common cold

Respiratory syncytial virus infection

Transmission

Respiratory viruses are spread by droplets generated through coughing or sneezing. If someone with a viral illness coughing or sneezing nearby and you inhale these inhales these droplets you may develop the disease.

Treatment

Respiratory viral disease usually heal on their own but over the counter medication including nasal decongestants, cough suppressants and pain relievers, can help to reduce symptoms.

In addition, Tamiflu and antiviral drugs is sometimes prescribed if someone is in the very early stage of developing the flu.

Prevention

The best way to avid respiratory disease is to practice prescribed hygiene. Washing your hands often,, cover your mouth, when you cough or sneeze and limit your interaction with people who show symptoms or respiratory conditions.

Question no. 2. What is cancer? How cancer is diagnosed? What is the role of genetics in cancer? Also explain TMN diagnostic test for cancer.

What is caner?

Cancer word comes from Greek word, means crab. Cancer is the uncontrolled growth of abnormal cell division in the body. Cancer develops when the body normal control mechanism stops working, forming new abnormal cells. These extra cells may form a mass of tissue called tumor.

How cancer is diagnosed?

In the diagnosis of cancer may be included computerized tomography, CT scan, bone magnetic resonance, imaging MRI, posirtron emission tomography scan, etc.

Symptoms

High fever, night sweeting, and in the three areas nodes, neck, lower abdomen, armpit

What is the role of genetics in cancer?

There are two types of gene.

1. Protooncogene
   It is the normal cell proliferation, normal mitosis, normal cell synthesis
2. Tumor suppresser gene

It stops cell proliferation, stops cancer cell division, and stop tumor cells from spreading

- Protooncogene coverts into oncogene, then produce abnormal cell or synthesis
- Tumourauppressor gene. The cancer causes mutation in these gene there why spread the tumor
- Gene regulation. The cancer also changes this gene, the apoptosis process of body loss.
- Gene regulating DNA repair. The tumor stops the gene from the repair of the gene that develop during synthesis due to tumor

TNM diagnostic test

The TMN system is the most widely used cancer staging system.

T refers to different area nodes on the body such as neck, armpit, and lower abdomen.

N refers to number of nearby limp nodes that have cancer.

M refers to weather, the cancer has metastasized. This means that the cancer has spread from the primary tumor to the other parts of the body, stage 0 to 1.

Question no. 3. Explain the structure of bacterial cell, how antibiotics kill bacteria? What is the mode of action of antibiotics?

Answer:

Structure of bacterial cell

Bacteria are prokaryotes lacking well defined nuclei and membrane bound organelles and with chromosomes composed of single closed DNA circle. They come in many shapes. Bacteria contain plasmid mesosome, cytoplasm, ribosome and periplasm for the protection from the outer environment contain two membrane, cell membrane and cell wall.

How antibiotics kill bacteria?

Antibiotics is a type of antimicrobial substance active against bacteria and it is the most important type of antibacterial agent for fighting bacterial infection or disease,

Different antibiotics have different modes of action, their nature and structure and degree of certain target site within bacterial cell. Some kinds of mode of action are below:

- Inhibiter of cell wall synthesis
- Inhibiter if protein syntheses
- Inhibiter of cell membrane function

Inhibiter of nucleic acid

Antibiotic medication used and treatment and prevention of such infection , they may either kill or inhabit the growth of bacteria

- synthesis
- Inhibiter of metabolic process of bacteria

Mode of action of antibiotics

Antibacterial action generally falls within one of four mechanism, three of which involve the inhibition or regulation of enzyme involved, and in cell wall biosynthesis, nucleic acids, metabolism and repair or protein synthesis respectively , the fourth mechanism involve the disruption of membrane structure.