

Name. Abdul saeed

Id. 15084

Paper. Microbiology

Department. AHS

MODULE 4TH SEMESTER COURSE

Submitted to. Dr Imran

Iqra national university Peshawar

Q NO 1.

ANS . **Cholera**

Cholera is an bacterial disease which cause the severe watery diarrhea ,this diarrhea can lead to dehydration and also death if it cannot treated in time.

Cholera is cause due to eating of food or drinking water contaminated with a bacterium which called vibrio cholerae.

CAUSES

- Municipal water supplies
- Ice made which are made with municipal water
- Food and drink which are sold by stress venders
- Vegetable grown with water containing human wastes .
- Raw or uncooked fish and seafood caught in water polluted with sewage .

Symptoms

- Severe watery diarrhea
- Vomiting
- Dehydration

Some other systems due to dehydration

1. Rapid heart rate
2. Loss of skin elasticity
3. Dry mucous membrane
4. Low blood pressure
5. Thirst
6. Muscle cramps on body

Treatment

- Drinking boiled water that has been chemically disinfected
- Making ice

- Brushing your teeth
- Washing hand as and face
- Washing dishes and utensils that we use for dinner or eating food
- Wash all the food which we have to eat before drinking or eating

The things which we have to avoid

Unpeeled fruits and vegetables

Raw are uncooked meat or shellfish

Fish caught in tropical reefs which may be contaminated.

Q NO 2.

ANS. Cancer

Cancer is nothing but uncontrolled growth of abnormal cells in The body. Cancer get start when the body normal control mechanisms stop working .in cancer the old cells of the body do not die grow out of control forming new abnormal cells. These extra mass which are produced due to the abnormal cells divixon5 is called tumour.

Diagnosing cancer

1. Cancer screening
2. Computerized tomography scan (CT SCANE)
3. Bone scan
4. MRI
5. PEI
6. Ultrasound
7. X-ray
8. Biopsy

Classification

- Carcinomas
- Sarcoma
- Lymphoma and leukoma
- Germ cells tumours
- Blastoma.

Types

1. Lungs cancer
2. Breast cancer
3. Colon and renal
4. Prostate cancer
5. Skin cancer
6. Testicular cancer
7. Ovarian cancer
8. Cervical and endometeial

Others

- Pancreatic
- Leukemia.

Types of cell death

- Apoptosis
- Necrosis

Causes of cancer

- The majority 90 -95 % cases are caused due to environmental factors.
- 5-10 % are due to inherited genetic factors.

Other sub causes

- Tobacco
- Diet and obesity
- Radiation

- Stress
- Environmental pollutant

Seven warnings signals of cancer

1. Changes in bowel or bladder Habits.
2. A injury that not heals
3. Thickening limp in the breast or somewhere else.
4. Unusual bleeding or discharge.
5. Indigestion or difficulty in swallowing
6. Making cough or hoarsnes.
7. Behaviour change s in a wart or mole.

If someone have these signs then he must go visit a doctor.

Signs and symptoms

- At the beginning there is no symptoms feels.
- Only can be shown as the mass continuous to grow.(tumour).

Treatment

- Surgery
- Chemotherapy
- Magic bullets
- Angiogenesis
- Gene therapy
- Transplantation of hematopoietic skin cells.
- Radiation therapy.
- Photodynamic therapy.

TNM SYSTEM FOR CANCER.

The most standard system for staging most of the cancer. This system is based on the tumour, lymph nodes and metastasis.

"T" the alphabet related to the tumour .it tells us about t size of the tumour its attend, or penetration of tumour.

"N" As the alphabet suggest it is related to the nodes of the lymph. It indicates the number of the lymph nodes which are effected by cancer or also location of the cancer involved nodes.

"M" the alphabet stand for the distant metastasis or spread of the cancer to other parts of the body .At means how speedy the cancer is speeding on al over the body.

Genetic of cancer

Cancer is basically a genetic disease. The cancer is caused due to the abnormal genetic cell division. In cancer there is no mutation occurs. In the process of genetic cell division when there is abnormal cells growth starts due to some reason there offspring also give birth to the abnormal cells growth.

THE ABNORMAL CELL GROWTH CAN BE LEAD TO EFFECT THE FOLLOWING GENES.

1. Protoaancogens
2. Anti-oncogenes
3. Apoptosis- regulation Genes
4. DNA repair genes .

If these special genes got effected that can be lead to start the abnormal cells growth because these are the only genes which perform the normal growth of cell.

Q no 3.

ANS . STRUCTURE OF BACTERIAL CELL

Bacteria is a gel like matrix which composed of water , enzymes , nutrients, wastes and gases and contains cells structure such as ribosome, chromosome and plasmid.

The cell is covers encases the cytoplasm and all its component .the bacteria does not ha e membrane enclosed nucleus.

Structure of bacterial cell is cetagerized into three main structure

1. Internal structure

Cytoplasm , nucleoid, bacterial chromosomes , plasmid , ribosomes, and storage granules .

2. Cell envelope

Cell membrane, peptidoglycan , cell wall or outer lipid membrane .

3. External structures

Flagella , fimbriae , sex pillus, glycoalyx.

Size

Cocci

Are true spheres with diameters ranging between 0.75 to 1.25 microfiraad.

Bacilli

Varying length from 2 to 10 time there width.

Coccobacilli

Are very short bacillis

Filament

Are long thread are bacilli which have not separated with single cell .

Components of bacteria cell

1. Flagella
2. Capsule
3. Plasma membrane
4. Plasmid or chromosome
5. Cell wall

How bacteria kills by antibiotics

Antibiotics fight bacterial infections either by killing bacteria or slowing and suspending its growth.

This process can done by

- Attacking the wall or coating surrounding bacteria .
- Interfering with bacteria reproduction .
- Blocking protein production in bacteria .

By these ways antibiotics stops the progression of bacteria in human body and the death of the bacteria occurs.

MODES OF ANTIBIOTICS

There are five basic mechanism of antibiotic action against bacterial cells.

1. Inhibition of cell wall synthesis
2. Inhibition of protein synthesis
3. Alternation of cell membrane
4. Inhibition of nucleic acid synthesis
5. Antimetabolic activity.

Thank you