**DISEASES OF THE HUMAN BODY**

**Types of Diseases**

***Deficiency Diseases***

A disease resulting from dietary deficiency of any substance essential for good health.

|  |  |  |
| --- | --- | --- |
| **Disease** | **Deficiency** | **Symptoms** |
| Anaemia | Haemoglobin (iron) | General weakness and pale complexion |
| Goitre | Iodine | Painful joints |
| Beri-beri | Vitamin B, (thiamine) | Weakness, swelling and pain in legs, loss of appetite, enlarged heart. |
| Scurvy | Vitamin C (abscorbic Acid) | Swollen gums, delayed wound healing. |
| Rickets | Vitamin D | Sleeplessness, pale face, diarrhoea, deformed skull, pelvis, and limbs in children. |
| Hypokalemia | Potassium | Rise in heartbeat, kidney damage, weakness. |
| Night Blindness | Vitamin A | - |
| Xerophthalmia | Vitamin A | Dryness |
| Dermatosis | Vitamin A | Skin diseases |
| Ariboflavinosis | Vitamin B2 (ribroflavin) | Blurred vision, soreness of eye and tongue. |
| Pellagra | Nicotinic Acid (vitamin B Complex) | Diarrhoea, mental lethargy, red skin, itchy hands, feet, elbows and knees. |

***Endemic Diseases***

A disease prevalent in a particular locality/region and more or less confined to a population/area because of prevailing conditions that promote the disease; e.g., malaria in marshy areas.

***Epidemic Diseases***

A disease simultaneously affects a large number of people in an area, i.e., a violent outbreak of a disease affecting several people in a given time and place, e.g., outbreak of cholera or malaria.

***Pandemic Diseases***

A disease which affects two or more countries or even continents.

***Sporadic Diseases***

A disease which occurs erratically in an area with apparently no clue to its occurrence.

***Hereditary Diseases***

A disease that a child inherits from his parents. For example AIDS becomes a hereditary disease when a mother suffering from AIDS gives birth to a child. Similarly there are other diseases which a child could get from his parents, like diabetes.

***Infectious Diseases***

A disease caused by specific pathogenic organisms and capable of being transmitted to another person by direct or indirect contact, i.e., through air, food water, etc.

***Contagious Disease***

A type of infectious disease which spreads from one person to another by physical contact.

***Insect-Borne Diseases*** (propagated by insects)

Malaria Anopheles female mosquitoes

Plague Rat flea

Relapsing fever Lice

Sand fever Sand fly

Kala azar Bed-bug

Dengue fever Culex mosquitoes

***Water Borne Diseases***

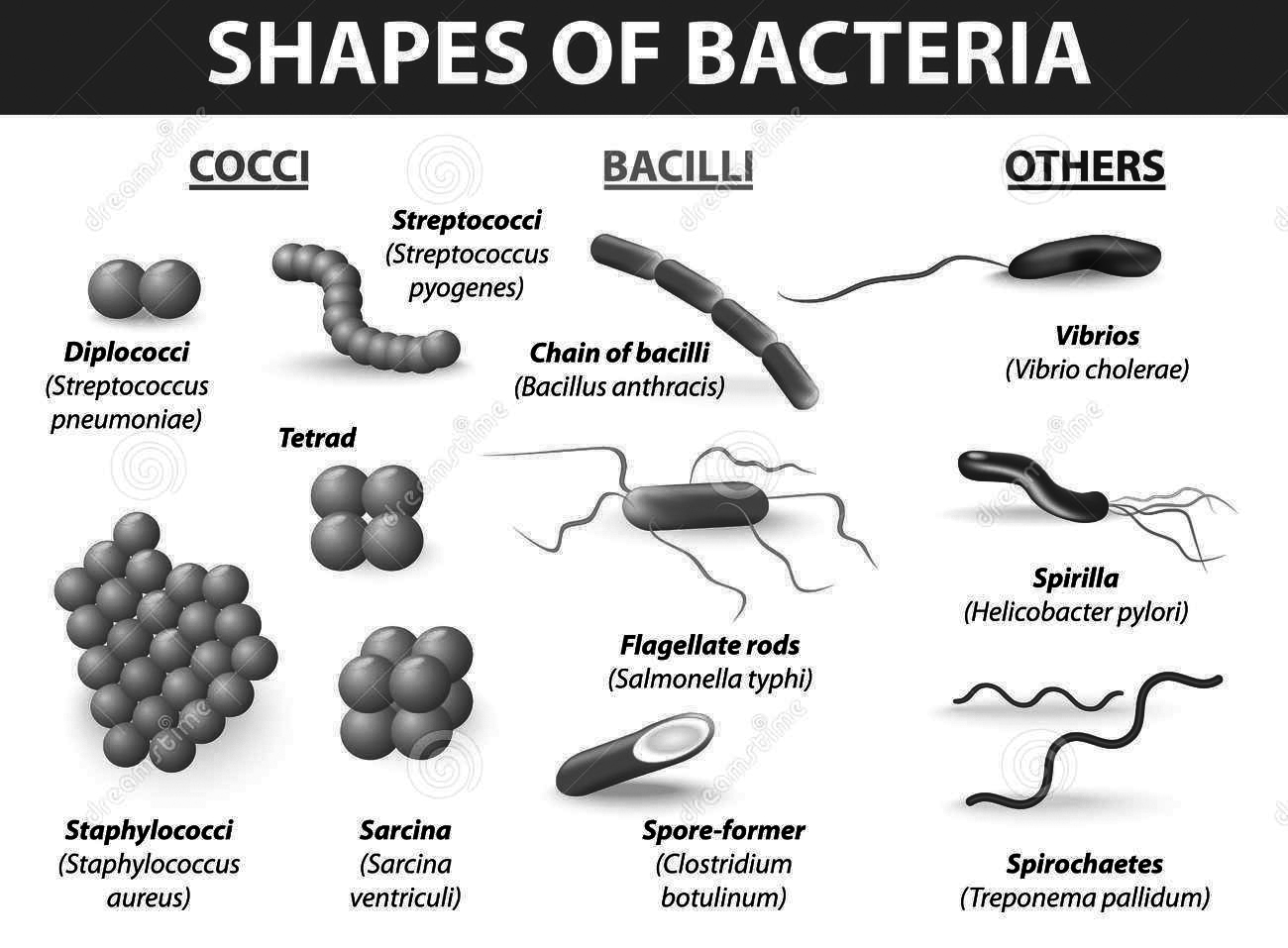
Diseases like cholera, typhoid dysentery, hook-worm and diarrhea.

***Diseases Caused by Contaminated Food***

Diseases like tuberculosis, cholera, typhoid, diarrohea, dysentery, Malta fever, etc.

***Air-Borne Diseases***

Diseases such as tuberculosis, influenza, small pox.

***Diseases Caused by Physical Contact***

Diseases such as small pox, venereal diseases, AIDS are caused by direct or indirect contact.

***Diseases Caused by Wounds in Skin***

Anthrax and Tetanus and results from an infected, open wound.

**Agents of Diseases**

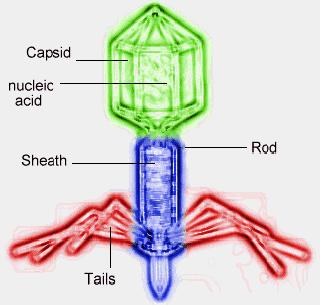
***1. Bacteria***

Bacterium is the smallest known living organism (excluding virus which may or may not be a living organism). These are single-celled organisms, more complicated than viruses but simpler than animal or plant cells. There are three common types of bacteria based on their shape and structure:

(i) Spherical or Oval (coccus)

(ii) Rod-shaped or Cylindrical (Bacillus)

(iii) Spiral (Spirillum)

[](http://www.google.com.pk/url?sa=i&rct=j&q=pictures+of+virus&source=images&cd=&cad=rja&docid=NspkTsdaxTZR6M&tbnid=WT8Ny7ZOkkNx-M:&ved=0CAUQjRw&url=http://www.cbu.edu/~seisen/Viruses.htm&ei=hB5MUYzcIsHUPKj5gOgP&bvm=bv.44158598,d.Yms&psig=AFQjCNFe-wmZHldw_n6vaC49yEK5zYz_eA&ust=1364029438199489)Bacteria are said to be both useful and harmful and are found everywhere. They can grow both on dead and living cells. Bacteria are necessary for the process of decay of organic matter; in making atmospheric nitrogen available for plants (Nitrogen Fixation). Bacteria which cause diseases are called parasitic or pathogenic bacteria. Diseases such as typhoid, tuberculosis, cholera and food poisoning, etc., are caused by such bacteria.

***2. Virus***

Discovered by a Russian scientist Dimitri lvanovsky in 1892. They do not exhibit all characteristics of living organisms. But are similar in composition and structure to a gene and appear in various shapes like rods, threads, spheroids, etc. Viruses are inactive when isolated and multiply only on invading a cell of a bacterium, animal or plant by using the most complicated chemical machinery of the host cell. Many infectious diseases (such as influenza, smallpox, AIDS, polio, etc.) are caused by viruses invading and disrupting their victim’s cell. Other diseases caused by viruses are typhus, measles, mumps, chicken pox and yellow-fever.

***3. Fungus***

A low form of life (without chlorophyII) including many microscopic organisms capable of producing superficial diseases. They live either as saprophytes or as parasites on other plants and animals. They cause diseases like infection of foot skin, jaws, and large intestines. Penicillin (the antibiotic) is developed from a type of fungus and cures fungus diseases.

***4. Amoeba***

A protozoan, one of the elementary unicellular forms of life, is a formless jelly-like cell. One form entamoebia histolytica is a parasitic pathogen that causes amoebic dysentery. Diarrhoea is also caused by a type of amoeba.

***5. Parasite***

An organism which obtains food or shelter from another host organism. They also act as carries of disease. Germs of malaria and yellow fever are carried by mosquitoes, plague by fleas and typhoid by lice.

|  |  |
| --- | --- |
| **Causative Agent** | **Diseases** |
| Bacteria | Diphtheria, gonorrhoea, meningitis, cholera. Leprosy, typhoid, tetanus, tuberculosis, plague, whooping cough, pneumonia |
| Virus | Chicken pox, small pox, measles, mumps, AIDS, yellow fever, influenza, dengue fever, rabies, polliomeritis, phelebotomus |
| Protozaan | Malaria, sleeping sickness, kala-azar, leishmaniasis, amoebic dysentery |
| Fungus | Athlete’s foot, ringworms, Madura foot, dhobi’s itch |

**Defence Mechanism against Infection**

The first type of defence against infection is the skin which serves as an impermeable barrier and bacteria can only enter if there is a cut in the skin, the eyes, the interior of the nose, the throat, stomach and intestine lack this barrier. However, there are secretions like tears, nasal secretion, saliva and gastric juices which kill bacteria.

Should these barriers be passed, the next reaction is an increased blood supply to the injured area as the supply of white blood cells (WBC) are brought up to destroy and kill the bacteria. This is marked by redness and swelling at the site of infection. Neutrophils engulf the bacteria and destroy it.

If, in spite of all these defence, infection succeeds, the lymphatic system comes into operation to prevent the spread of infection. When all these mechanisms fail to combat the infection, the disease finally attacks the human body.

***1. Fever***

Fever (temperature above normal body temperature of 97.4o F) is in fact not a disease by itself but an indication of presence of a disease. The body temperature rises because of the heat that is produced while the body’s mechanism fights the growth of the invading bacteria.

***2. Immunization***

Immunization is the resistance of the body to a specific disease by process of production of immunity in the body. Immunity is present after the patient has recovered from a disease. The diseases cause the body to form antibodies against the specific germs. The patient becomes immune to a particular infection because the blood now carries antibodies which will destroy the germs of that disease, should an infection occur. Immunity is also produced by vaccination and inoculation.

***3. Vaccination***

It is the introduction of a vaccine to the body. Vaccine is a preparation of dead or weakened pathogenic bacteria or germs. When a vaccine is injected into the body, it stimulates the body to produce antibodies in the blood, which may persist in the blood for long periods of time thus making the body immune.

***4. Inoculation***

Inoculation is the introduction of antitoxins or serum to the body. Serum is a preparation from the blood of an animal that has been inoculated with disease-producing germs or bacteria and has recovered from the ailment caused by the inoculated germs or bacteria. This serum is removed from the animal blood and after sterilization and treatment is injected into the body of confer immunity should the germs of bacteria enter.

**Important Vaccines**

|  |  |
| --- | --- |
| **Vaccine** | **Discovered by** |
| Small pox | Edward Jenner (1786) of Gloucestershire made the first, successful small pox vaccination |
| Cholera | Louis Pasteur (1880) of France prepared the first Cholera vaccine. |
| Diphtheria and | Emil Adolf Von Belming and Shibasaburo Kitasato of Germany and Japan respectively |
| Tetanus | (1891) developed anti-toxins to treat diphtheria and tetanus. |
| TB vaccine | Leon Calmette and Camille Guerin (1992) Paris, developed the first TB vaccine. |
| Polio vaccine | Jonas E. Salk (1954) Pittsburgh (US). |
| Oral polio vaccine | John F. Enders (1960) USA |
| Rabies Vaccine | Typhus Vaccine Charles Nicolle (1909) France. |

**Diseases, Symptoms, Causes and Remedies**

***1. Aids***

AIDS is a killer disease. Its full form is ’ACQUIRED IMMUNO-DEFICIENCY SYNDROME’. The disease was first reported in early 1981 from the United States and created a worldwide scare. The World Health Organization’s great concern during the decade is to combat the spread of this fatal incurable disease.

***Causes***

AIDS is transmitted by a virus known as HIV-III, which disrupts the entire immunity system of the human body. When AIDS was first detected, it was thought to be a sexually transmitted disease found in homosexuals only. However, later investigations revealed that the principal mode of its transmission was through blood by way of;

⏹ Shared needles for injecting drugs.

⏹ Transfusion of contaminated blood

⏹ Anal sex, which often damages blood vessels making entry of the virus easy.

⏹ Sexual relations with an infected person also spreads the virus.

***Symptoms***

The most common symptoms are a form of severe lung infection known as Pneumocystis carnii pneumonia and cancerous skin tumour known as Caposis’s Sarcoma. Death mainly occurs as a result of skin tumours and other complications including brain damage and severe diarrhoea.

***Treatment***

There is no specific treatment yet available for AIDS. However, encouraging result have been achieved by administration of AZT (Short for 3-azido-3-deoxythymiidine) taken orally four times a day. However, its long term effects are not yet known. It in fact does not cure AIDS but only keeps the multiplication of new virus in check.

Efforts are afoot to develop a vaccine against this virus. According to medical circles in the US a vaccine against AIDS, even if successfully developed, would not be available for general use at least in near future

***2. Malaria***

An insect borne tropical disease.

***Cause***

Malaria parasite (Plasmodium) which enters the blood through a mosquito bite (female enopheles).

***Symptoms***

Shivering, fever. Repeated attacks lead to enlargement of spleen. Also leads to anaemia, pigmentation of the face and general weakness.

***Cure/prevention***

Administration of quinine of plaurdine. Prevented by keeping the atmosphere free from mosquitoes.

***3. Tuberculosis***

An infectious and endemic disease, both air-borne and caused by food, unhealthy living and working conditions.

***Cause***

Mycobacterium tuberculosis (detected by Robert Koch in the mid-19th century), a type of bacteria. It attacks a person suffering from malnutrition, weak chest, unhealthy living and working conditions.

***Symptoms***

General weakness, regular temperature (generally in the evening and not very high), coughing, blood-stained sputum.

***Cure/Prevention***

Streptomcin and surgery. Prevented by BCG inoculation and healthy living and working atmosphere.

***BCG***

The vaccine was developed in 1906 by Calmette Guerin in Paris and called BCG.

***4. Cholera***

An acute epidemic, water and food-borne disease.

***Cause***

Cholera vibrio or Vibriocholerae which attacks during exposure to chill, when stomach is empty for long duration, eating of unripe or overripe fruits and stale food.

***Symptoms***

Vomiting, stomach ache, loose stools with high frequency followed by temperature and unconsciousness.

***Cure / Prevention***

Avoiding consumption of cut fruits exposed to flies, and contaminated water. Anti-cholera drugs are advised.

***5. Tetanus***

Caused by Bacillus tetanus and Clostridum tetani which live in soil, dust, cow and horse dung. It attacks an open wound exposed to dust and soil.

***Symptoms***

Painful contraction of muscles, usually of neck and jaws, followed by paralysis of thoracic muscle.

***Cure/Prevention***

Preventing exposure of wounds to dust and administering of Anti-Tetanus (ATS) injection.

***6. Diphtheria***

An acute infectious disease of the throat.

***Cause***

Acute infection by diphtheria bacillus/coryne-bacterium diphtheria causing infection of throat.

***Symptoms***

Inflammation of throat where a grey membrance (a false membrance on mucous surface) is formed. Pain and swelling of throat with fever.

***Cure/Prevention***

Immunization vaccine/injection of diphtheria antitoxin within 12-24 hours of appearance of symptoms.

***7. Typhoid***

A food and water-borne infectious disease.

***Cause***

Salmonella typhi bacillus transmitted through contaminated food and water, either directly by sewage or indirectly by hands and faulty hygiene.

***Symptoms***

Temperature, slow pulse, abdominal tenderness, rose-coloured rash.

***Cure/Prevention***

Rest and administration of Chloromycetin, proper sanitation, protection of eatable.

***8. Plague***

A contagious disease which takes the form of an epidemic.

***Cause***

Pasturella pesitis is spread by infected rats. Transfer of infection from rat to man through flea buite or Accidental contact with infected rats.

***Symptoms***

Acute body ache, reddish eyes, sudden rise of temperature, inflammation of neck glands and glands in armpit, and thighs.

***Cure/Prevention***

Antiplague inoculation, isolation of patient, disinfection of patient’s clothes and utensils, burning of killed rats. Sulpha drugs and streptomycine administration.

***9. Typhus***

A viral infection

***Cause***

Rickettasia prowazekii, usually caused by poor hygiene and malnutrition.

***Symptoms***

High fever, skin eruptions and severe headache.

***Cure/Prevention***

Sulphonamides and antibiotics.

***10. Pneumonia***

***Cause***

Diplococus pneumonia

***Symptoms***

Chills, pain in chest, rusty sputum, rapid breathing, abdominal pain.

***Cure/Prevention***

Antibiotics.

***11. Gonorrhoea***

A venereal disease

***Cause***

Neisseria gonorrhoea, through sexual intercourse with infected person.

***Symptoms***

Redness, swelling, pus discharge through urethra, painful urination.

***Cure***

Penicillin G. Tetracycline.

***12. Syphilis***

***Cause***

Treponema pallidum transmitted through sexual contact.

***Symptoms***

A hard painless sore on the genitalia, skin eruption.

***Cure/Prevention***

Penicillin, protected sexual intercourse.

***13. Whooping cough***

Chiefly occurs among infants and children.

***Cause***

Nemophilus pertusis transmitted through air.

***Symptoms***

Severe cough, usually at night.

***Cure/Prevention***

Immunization of infants with immunity serum.

**Blood Diseases**

***1. Anaemia***

A condition where the RBC are seriously reduced in number or else are deficient in haemoglobin. This results in reduced supply of oxygen to tissues which retards normal functioning of the body systems.

***2. Leukaemia***

Also called blood cancer is caused by over production of WBC. The WBC overrun the bone marrow and crowd out the RBC causing anaemia. The disease is caused due to malfunctioning of bone marrow and is normally incurable. However, bone marrow transfusion is believed to yield good results.

***3. Agranulocytosis***

A condition where there are few WBC. This lowers body resistance to disease and causes secondary infections whereby the patient may die from infections he cannot resist.

***4. Thrombocygtopenia***

A condition where there are too few platelets in the blood, as a result blood seeps out of the circulatory system making black and blue bruise spots. If not properly treated, it may result in fatal bleeding.

***5. Haemophillia***

A hereditary bleeding tendency due to inadequate clotting of blood. It is a rare disease almost always seen only in males.

***6. Haemorrhage***

Loss of blood from the blood vessels, which may be from external wounds, and occur in the tissues or escape into the body cavity.

**Diseases of the Eyes**

***1. Hypermetropia (Far-Sightedness)***

A vision defect when a person cannot see objects near at hand because the light focuses behind the retina. This can be corrected with convex lenses.

***2. Myopia (Near-Sightedness)***

A vision defect when a person cannot see distant objects because the light entering the eyes focuses in front of the retina. The lens refracts the parallel rays entering the eye. This can be corrected by using concave lenses.

***3. Astigmatism (Distorted Vision)***

A condition in which light focuses on a line instead of at a point (when cornea is not spherical). This line may focus behind the retina in this case. it is called Hyperopia astigmatism or myopic astigmatism when in front of the retina. This defect can be corrected by using cylindrical lenses.

***4. Presbyopia***

Lack of normal focusing power of the eye on objects near at hand and common in most persons after 40-42 years of age. Presbyopia causes difficulty in reading and working with objects close at hand. This defect can be corrected by the use of convex lenses.

***5. Conjunctivitis***

Inflammation of the eyes resulting in itchiness and reddening of eyes making them sensitive to light. For cure, the affected eye is daubed with a simple solution of weak, salt water or boric acid and use of antibiotic eye drops.

***6. Trachoma***

Caused by a germ called chalmydiae, and spreads by direct contact. It always affects both eyes and causes mild itching and irritation. For cure tetracycline group orally is administered.

***7. Cataract***

A condition of opacity of lens which occurs with ageing, causing progressive blurring of vision. Distant view is mostly affected whereas near vision is often improved in early stages. Cataract can be cured by operation called lens extraction.

**Common Body Disorders**

***1. Allergy***

A special reaction to a certain substance such as pollen (causes sneezing) or certain foods (causes skin rash). Allergy can be from any material, even by colour of clothes and furnishings, etc.

***2. Arthritis***

Inflammation of joints.

***3. Asthma***

A respiratory disorder caused by narrowing of bronchial tubes. It is caused both by infection and due to allergy to dust-ridden atmosphere.

***4. Bronchitis***

Inflammation of bronchial tubes caused by bacteria or virus. A fatal disease among infants and secondary infection among adults.

***5. Cancer***

An abnormal growth of body cells, often resulting in a malignant tumour. There are several causes of this dreaded disease, and certain cancers are yet incurable.

***6. Diabetes***

Excess sugar in the body cause diabetes, when the body is not able to control level of blood sugar due to malfunctioning of the pancreas (digestive gland), that is., when it produces inadequate insulin. A controlled diet less carbohydrates) and intake of insulin, is the treatment for diabetes.

***7. Epilepsy***

Unwarned and periodic loss of consciousness along with convulsions, due to nervous disorders.

***8. Glandular Fever (Mumps)***

An acute infection caused by a virus occurs particularly in children and young adults following swelling of the glands of the neck and high fever.

***9. Hepatitis***

Any infectious or inflammatory disease of the liver commonly identified by its primary symptoms of jaundice.

***10. Hernia***

A weakness of the muscle surrounding an organ allowing it to bulge through, often found in the groin. It is cured by operation.

***11. Jaundice***

Excessive bilirubbin (present in bile juice secreted by liver) in the blood, caused yellowing of the skin, eyes and yellowish urine.

***12. Measles***

A contagious disease caused by virus; a red rash appears on the body along with fever. Disappears gradually after about ten days.

***13. Migraine***

A type of a headache followed by disturbed vision and speech accompanied by nausea.

***14. Pellagra***

A disease caused by deficiency of nicotinic acid (Vitamin B Complex). The symptoms are diarrhoea, mental laziness, and symmetrical dermatitis. Skin becomes red and itchy.

***15. Osteomalacia***

A disease caused by shortage of Vitamin D which results in softening of bones, pain causing frequent fractures and bending of the backbone.

***16. Pleurisy***

Inflammation of the membrane that covers the lungs and lines the chest cavity.

***17. Rabies***

A virus disease transmitted by the saliva of infected animals; symptoms include convulsions and revulsion to water (Hydrophobia).

***18. Ringworm***

A skin disease causing circular swelling on the skin. Transmitted through air-borne spores and contact with infected patient.

***19. Scarlet Fever***

Caused by haemolytic streptococcal infection; symptoms are fever, sore throat and a red rash.

***20. Slipped Disc***

A painful condition in which a cartilage disc in the spine is displaced putting pressure on the nearest nerve.

***21. Small Pox***

A contagious virus disease, common among children, characterized by a rash of pustules that leave permanent scars on skin. The WHO started a sustained campaign in the 1960s and 1970s to eradicate small pox by mass vaccination. In 1980 WHO declared that small pox was eradicated. It was the first disease to be eradicated from the face of the earth.

***22. Thrombosis Ulcer***

Formation of a blood clot in a blood vessel or in the heart which results in death of the patient. An inflamed open sore on the skin, or the membrane of a body cavity. Peptic ulcer is a state when there are ulcers in the food pipe associated with indigestion and mental tension; a common disease among people working in an industrial society.

**Common Drugs**

***1. Anaesthetics***

Drugs that block sensory nerves and make a patient fully unconscious to prevent him from feeling pain.

In case of local anaesthesia a particular area is made senseless temporarily. Used for surgical operations and includes drugs like chloroform, ether sodium pentothal, etc.

***2. Analgesics***

Drugs used to prevent or relieve pain like aspirin (acetylsalicyclic acid) or analgesic tablets

***3. Antibiotics***

Drugs used to prevent growth of body germs and to destroy them as soon as possible. Most common drugs under this category are penicillin, tetramycin.

***4. Antihistamines***

These drugs are used to relieve symptoms of asthma, hay fever and other allergies.

***5. Antipyretics***

Drugs used to lower body temperature.

***6. Hormones***

Drugs used to combat hormone deficiency that causes diseases. Drugs like insulin (for diabetics) or adrenalin come under this category.

***7. Narcotics***

Drugs that deaden the nervous system and prevent a person from feeling pain, for example, opium and its derivatives such as codeine, herion, morphine, etc.

***8. Sedatives***

Drugs used to induce sleep like barbiturates and bromides.

***9. Tranquillizers***

Drugs that calm nervous system and prevent worry, tension, etc.

***10. Vaccines***

Drugs that are injected to help the body to develop resistance to disease or immunization of the body.

**Dengue Fever**

**Introduction**

Dengue is a mosquito-borne viral infection in human beings. In a few years' time, it has become the most rapidly spreading international public health problem, particularly in urban and semi-urban areas of tropical and sub-tropical regions of the world. More than 50 million people are in contact with the disease each year. This disease had also been known as break-bone fever.

**Etymology (Origin of the Name)**

Name of the disease, most probably, is derived from a Swahili word “Dinga” which means “evil spirit”, Swahili is spoken in many East and North African countries. “Dengue” is a Spanish word meaning careful. It might have been used because a person suffering from severe pain in bones and joints moves carefully.

**Classification of the Disease:** The disease has four types;

**Undifferentiated fever:** where very mild symptoms like flue, cold or negligible fever occurs.

**Dengue Fever (DF):** with clear symptoms of high fever, headache, severe pain in joints and rashes on skin etc.

**Dengue Hemorrhagic Fever (DHF):** It involves high fever with spontaneous bleeding from capillaries.

**Dengue Shock Syndrome (DSS):** More serious symptoms of high fever and shock,

very low blood pressure, weak pulse (difficult to detect).

**History of Dengue**

The first reported epidemics of dengue fever occurred in 1779-1780 in Asia, Africa, and North America almost simultaneously. At that time, dengue virus and vector mosquitoes had a worldwide distribution in the tropics and subtropics. *Aedes aegypti* was identified as a vector of dengue virus in 1905. A global pandemic of dengue began in Southeast Asia after World War II. It has intensified during the last two decades in many countries. Sri Lanka, India, and Maldive Islands had their first major DHF epidemics in 1980s.

In Pakistan, cases of dengue fever were first reported in 1994 from Karachi. Since then its victims are increasing in different regions of the country. In 2011, situation has become alarming in Lahore.

**Symptoms**

Among the people infected with dengue virus about 80% have only mild symptoms of uncomplicated fever. When mild undifferentiated symptoms appear without any rash, it can be misdiagnosed as flu or some other viral infection. Less than 5% have severe illness which may be life threatening in a small proportion.

The common symptoms of dengue fever usually appear within 4-7 days after infection. These may include high fever, chill, rash, severe headache especially behind the eyes. Dengue is named “break-bone fever” due to severe muscle and joint pain. Other symptoms are dizziness, fatigue, weakness, loss of appetite, nausea, persistent vomiting and backache. However, symptoms vary from person to person.

**Management Strategies for the Dengue Patient**

For the time being, no effective medicine is available for dengue fever. The World Health Organization (WHO) recommended that patient should be kept on supportive therapy.

***1. Complete Bed Rest***

Complete rest is advised by the physician. It is the most effective method for controlling any kind of disease. Activity or anxiety uses body's energy. Patient should stay calm to cope with the disease more efficiently.

***2. Sponging***

In the case of high fever, body temperature should be kept below 102F. Doctors advise that it may be lowered by sponging with moderately cold water.

***3. Paracetamol***

Paracetamol is the only effective drug advised to relieve fever and pain. Any other drug is strictly prohibited to avoid complications. Dose should be determined by a doctor.

***4. Rehydration***

Patient should increase fluid intake through fruit juices and ORS (Oral Rehydration Salt). It is very important to replace loss of fluid, sugar and electrolytes. Adequate fluid intake reduces the chance of hospitalizations.

***5. Hospitalization***

All patients need not to be hospitalized. They may be sent home by the physician after early diagnosis of mild symptoms. Most of the dengue patients can be treated as “out patients” and advised to immediately rush to hospital in the case of emergency.

***6. Isolation of the Patient***

Complete isolation of the patient is not required, however, use of mosquito net is mandatory so that a mosquito may not get virus from the patient. Hospital environment should be insect free.

***7. Avoid Travelling***

The patient should not travel to long distance to avoid spread of disease to other areas.

***8. Platelet Transfusion***

Platelet transfusion is not required in most of the cases. A qualified doctor regularly monitors the platelet count and decides the time for transfusion. Platelet transfusion from a suitable donor should be carried out under his supervision in a hospital. Proper screening and cross matching of donor and recipient is necessary. To facilitate the platelet transfusion, government has equipped major hospitals of the towns with mega unit cell separators. Concentrated form of platelets separated from single donor is called mega unit of platelets. These separators quickly isolate only the platelets and simultaneously return rest of the blood back to the donor.

**Prevention**

Presently there is no specific vaccine available for dengue fever. Therefore, the only choice left is to control the vector involved in the transmission of dengue virus. Control of mosquito also helps to control other diseases like malaria and yellow fever.

***Protect People from Mosquito Bite***

***⏹ Use Bed Nets:*** Bed nets should be used to protect the people from mosquito bite. Aedes mosquito mostly bites during the day and Anopheles at night. Bed nets are more effective when they are treated with an insecticide or insect repellent.

***⏹ Use Mosquito Repellent:*** Mosquito repellent in the form of body lotions may help avoid mosquito bite. Aerosol insecticides, vaporising mats and mosquito coils should be used in rooms. Curtains may also be sprayed with mosquito repellents.

***⏹ Wear a Proper Dress:*** Minimise area of exposed skin by wearing full sleeve shirts and long pants. Wearing socks and closed shoes further reduces the risk. Mosquito repellent can also be applied to clothes for further protection. Avoid wearing dark and tight clothes, because mosquito attacks more on dark colours and can easily bite through tight clothes.

***⏹ Screening of Houses, Offices etc:*** Screening of windows and doors with fine wire net bans entry of mosquitoes. Dengue patient should always be kept in screened room to avoid viral spread from the patient.

***⏹ Reschedule Daily Activities:*** People should reschedule the pattern of daily activities of life. We should avoid going outside during the peak hours of mosquito activity. Moreover, we should avoid visiting areas of epidemics.

**Vaccination**

Vaccines are weak or killed germs, which when introduced in the body induce immunity against the healthy germs. Dengue vaccine is not yet available. A quadrivalent vaccine for all four dengue serotypes is still awaited.