Mini-Review

AIDS

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Summary

AIDS is the abbreviation of “Acquire Immune Deficiency Syndrome”. It is viral disease caused by HIV (Human Immunodeficiency Virus). It is a RNA virus. It has special enzyme called Reverse Transcriptase, which converts its RNA to DNA. This virus attacks immune system. It takes years for its action. It may cause death of patient. Transmission of virus occurs by the transmission of Blood Serum Pre-Semenal fluid Vaginal fluid from infected to normal person. Symptoms are pulmonary infection, gastrointestinal infection, Neurological and psychiatric involvement, Tumors and malignancy. Its treatment is called HAART (Highly Active Antiretroviral Therapy). This therapy converts the fatal illness into chronic illness.

Key words: HIV, White blood cells (T-Cells), Tumors, Immune system, Retinitis, Reverse transcriptase

Introduction

AIDS is a abbreviation of “Acquired Immune Deficiency Syndrome (AIDS)”. AIDS is the last stage of HIV infection. It takes years for infection in a person and sometimes without producing symptoms. Having aids means the virus has weakened the immune system at the point at which body has difficult time fighting infections. When someone has one or more of these infections and a low number of T cells, he or she has AIDS. It is a viral disease. In the last 27 years nearly 25 million people have died due to AIDS. This disease causes death of people in their prime years of life.

Virus

“HIV” causes it. HIV is an abbreviation of (Human Immunodeficiency Virus). HIV is different from all other viruses because it attacks Immune system. Immune system is the System of the body that gives ability to the body to fight against infections or disease causing antigens. HIV finds and destroys the defending cells of body, the white blood cells (T-cells). Due to which ability of the body to fight against disease is lost.

Transmission

The HIV can be transmitted through the following fluids. HIV can be transmitted through Blood. It can be transmitted through Serum. It can also be transmitted through Pre-seminal fluid. One of the major reasons of its transmission is through vaginal Fluid or Brest milk from an infected person to normal person. Following are the common ways in which HIV is transmitted from person to person. One of the common reasons is when someone has sex with infected person. Another reason is when an affected person shares needles and injections with a normal man. It is also transmitted from an infected lady to the normal child during

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Replication Cycle

HIV virus allows itself to be eaten by Defense cells i.e. T-cells and in this way it enters in defense cells. It brings with itself an enzyme called “Reverse Transcriptase”. This enzyme transfers its genetic material RNA to the human genetic material DNA. Then this transformed genetic material attaches itself to one of the host cells. In this form it can remain dormant for years.

When it is required to replicate it triggers the host cells. The host cell makes the RNA of HIV virus. These RNAs are enclosed in capsule and new viruses are produced. The HIV virus uses the machinery of host cell for its own purpose. Thousands of HIV viruses are immediately formed, destroying the defense cells. The new HIV viruses in turn attack other defense cells.

Symptoms: -

Following are the symptoms of AIDS or HIV infection. The Neurological symptoms are Encephalitis and Meningitis. The symptom, which occurs in Eyes, is Retinitis. The symptoms, which occur in Lungs, are Pneumocystis pneumonia and Tuberculosis (multi organs). Tumors produce in skin as a result of HIV infection. Esophagitis occur in gastrointestinal track due to HIV infection. Chronic Diarrhea and Tumors are also produced in the gastrointestinal track as a result of HIV infection. Other symptoms that are produced as a result of HIV infection are pulmonary infection, gastrointestinal infection, Neurological and psychiatric involvement, Tumors and malignancy.

The only way to know that whether a person is infected or not is the test of HIV. We cannot rely on the symptoms only because some patients which have the disease but do not produce symptoms. In USA one quarter of the person infected with HIV don’t know about this.

TREATMENT

The current therapy used for HIV treatment is called “HAART”(Highly Active Antiretroviral Therapy). It consists of combination of at least 3 drugs. There are 20 drugs available in market for this purpose. A successful HAART suppresses the amount of HIV in blood and increases the amount of helper T-cells. This therapy converts the fatal illness into chronic illness. These drugs prevent the disease in different mechanisms, by interrupting the replication cycle.

Thanks to HAART through people are living for years and living a better life. HAART does not eliminate the disease. It is not the cure of Aids. It only stops its cycle. Drugs have to be taken by patients daily, which is a heavy burden on patient. If he stops taking drugs the Virus starts its cycle again. Despite HAART more than 100 peoples die in Switzerland due to aids.

Epidemics

During 70’s and 80’s disease propagates form Africa to USA and every country of the world. The main reason of its propagation is through sexual means.

Due to global attention the rate of new HIV infections has slowed. Despite the global attention the total number of people in the world with HIV infection is rising continuously. In 2008 the people died of aids were 2 million, 33.4 were living with the aids, and 2.7 were newly infected with virus. More than 90 percent of the HIV infected people are living in devolving world.

References

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