

An Overview of HIV Treatments

Fredrich Luan*

Department of Biomedical sciences and Health, University of the Free State, Bloemfontein, South Africa

*Corresponding author: Fredrich Luan, Department of Biomedical sciences and Health, University of the Free State, Bloemfontein, South Africa, E-mail: Luan.fredrich@ufb.sa

Received date: September 06, 2021; Accepted date: September 21, 2021; Published date: September 28, 2021

Citation: Luan F (2021) An Overview of HIV Treatments. Vol.6 No.1:e004.

Description

Human Immunodeficiency Virus (HIV) is a virus that attacks immune system of human body. If it is not treated, it can lead to Acquired immuno-Deficiency Syndrome (AIDS) characterized by very weak immune system which cannot fight against ordinary infections and diseases that leads to death. Currently, there is no cure for HIV but many medications and treatments are used to treat HIV patients to delay HIV proliferation and improve complications. Food and drug Administration (FDA) has approved some of the drugs that show their efficiency at delaying viral multiplication and complexities. These are divided into several different classes according to their mode of action. It is suggested that, any three drugs to be used from at least two classes for initial treatment. Currently, drugs like Tenofovir, Emtricitabine, Doravirine, Extravirin, Nevirapine, Rilpivirine, cocktail of drugs (mixture of multiple types of drugs), antiretroviral therapy and some other type of drugs are being used as treatment. Some of the drugs have major side effects. The mode of action, efficacy and side effect of the very recent drugs are discussed here along with their classes. Researchers are working hard and soul to find a treatment method which can surely remove HIV and save millions of lives.

AIDS was first identified in young gay men during the summer of 1981. The disease was initially thought to be a "Gay plaque" in 1982, the disease was diagnosed and named as AIDS by CDC and SIDA. In 1983, the disease was also reported in heterosexual people. The disease continued steady propagation until now,

and considered as global epidemic according to WHO. Most common symptoms at early stage of the disease are fever, sore throat, fatigue, weight loss, and myalgia. In Late stage of the disease the patient suffers from different types of cancers and infections due to decreased number of CD4 T cells. The virus attaches to the CD4 antigen of T helper cell. Then, the viral membrane gets fused with the cell membrane and RNA enters to the cell. RNA is converted into DNA by reverse transcriptase. Then the DNA is integrated into the DNA of host cell which is transcribed and translated to produce viral protein. This viral protein gets matured by protease. These mature proteins and replicated RNA makes some new complete viruses. Then the virus comes out from the cell. The genetic changes and activities made by the virus causes destruction of the cell. Rapid destruction of T helper leads to lower level of TH cells, which subsequently causes immune dysregulation most commonly for dendritic cells and B cells that leads to immunodeficiency. Drugs have been made to halt different stages of life cycle of the virus which may suppress their activity. But none of the drugs can fully recover patients from the disease but they can help to boost up immunity and delay complications.

Till now, no treatment is invented which can eliminate HIV from the body completely because the virus becomes resistant frequently and can hide inside the cells. Though combination of three or more drugs is supposed to be most effective treatment for HIV patients, but it is not enough to eradicate all of the viruses. Hope that scientists will be able to invent a drug which can cure HIV patients completely.