

Malaise, maculopapular rash, and lymphadenopathy. The acute infection and rapid, widespread viral dissemination is followed by a chronic asymptomatic stage. At a later stage the infected individual may develop weight loss, fever, persistent lymphadenopathy, oral candidiasis and diarrhea. Further viral replication takes place until finally, years after initial infection, full blown AIDS develops. A progressive HIV-associated encephalopathy is seen in individuals with AIDS and is characterized by multiple small nodules of inflammatory cells, most of the infected cells appear to be microglia or infiltrating macrophages. These cells express the CD4 antigen, and infected monocytes carry the virus into the brain. AIDS, symptomatic disease, consists of a large spectrum of microbial diseases acquired or reactivated as a result of the underlying immunosuppression due to HIV. such opportunistic infections include; disseminated CMV HSV JC virus, EBVm HHV-8, mycobacteria, salmonella septicaemia, toxoplasma gondii, histoplasmosis, coccidioides, wasting disease, and HIV encephalopathy.

Initial laboratory diagnosis is based on detection of antibodies of surface glycoprotein gp120 and gp41. In addition, initially, an HIV-1 and -2 antibody/antigen combination assay which includes antibody and p24 antigen is carried out. HIV-1 RNA or proviral DNA test may be carried out on plasma and whole blood samples, respectively. Part of monitoring HIV-1 infected individuals on or off antiretroviral therapy involves measuring the plasma HIV-1 RNA load using assays based on reverse transcription polymerase chain reaction, branched DNA signal amplification, and RNA transcription isothermal amplification. In addition, part of the laboratory portfolio involves antiretroviral resistance genotype analysis by automated DNA sequencing. Monitoring of HIV infected patients involves measurement of p24 antigen levels and CD4+ cell count.

Antiretroviral therapy results in a dramatic improvement in disease prognosis. Antiretroviral therapies include nucleoside reverse transcriptase inhibitors, non-nucleoside reverse transcriptase inhibitors, protease inhibitors, fusion inhibitors, integrase inhibitors, and chemokine receptor antagonists. Treatment combines individual classes and combinations of classes. As a result of improved diagnosis, surveillance, prevention, and antiretroviral treatment, the number of AIDS-related deaths among children and adults worldwide has fallen. Specific mutations in the HIV reverse transcriptase, protease and integrase regions associated with reduced susceptibility to one or more antiretroviral drugs have been identified by nucleic acid sequencing. Some drug resistance mutations confer resistance to more than one drug of the same class, whereas others appear unique to specific drugs. Transmission of drug-resistance HIV is an important issue. Drug resistance mutations per sample tested has fallen from antiretroviral therapy naive adults infected with HIV in the UK. treatment of AIDS involves prophylaxis and treatment of opportunistic infections as well as using antiretrovirals.

There are a number of preventative measures to reduce the spread of HIV. reducing sexual transmission by changing sexual behaviour and condom use is a major public health effect, but pre-exposure prophylaxis with daily antiretroviral therapy has been shown to reduce HIV transmission. Prevention of mother-to-child HIV transmission involved the use of antiretroviral treatment started after the first trimester of pregnancy. The risk of transmitting