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Epidemiology of Human Papilloma Virus (HPV)

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Description

Papillomavirus is a double-stranded DNA virus belonging to the family Papillomavirus. These viruses are highly species-specific, and Human Papilloma Virus (HPV) infects only humans. There are more than 200 types of HPV, which can be categorized into skin or mucous membranes based on tissue tropism.

HPV infection is associated with many other illnesses, including skin and anal genital warts, genital and upper gastrointestinal tract cancers. The incidence and prevalence of these conditions vary significantly depending on factors such as HPV genotype, local condition; population studied, and sampled anatomical sites. Recently, cervical microbiota features have been found to be associated with the development of HPV-related diseases, providing a new approach for identifying high-risk women from both blood and cervical samples. Epidemiological monitoring of HPV infections and related diseases is an important issue in the monitoring and evaluation of the three prophylactic antiviral vaccines currently available and their worldwide acceptance.

In addition, understanding the characteristics of HPV infection and how it develops at the molecular level will give a better understanding of the actual distribution of the burden of HPV-related diseases and their effects. This will in turn lead to new therapeutic strategies for the development of next-generation antiviral vaccines to overcome the shortcomings of current preventive regimens, including high cost, limited antiviral protection and immunization control. The greatest risk factors for infection are gender, adolescence, and sexual activity, with consistently the highest proportions among sexually active women under the age of 25. Winer et al. followed by 148 female students who began sexual activity. They found that the cumulative HPV incidence after 24 months was 38.9%. HPV 16 is the most common type, with a cumulative infection rate of 10.4% at 24 months. The cumulative incidence of HPV-18 infection during the same period was 4.1%. Brown etc. studied a smaller cohort of middle-aged women for two years. The molecular genotyping and HPV detection techniques used in the studies selected were linear array HPV genotyping test, careHPV, and genotyping using PCR-restricted fragment length polymorphism analysis.

Both humoral and cell-mediated immune responses are induced during HPV infection, and antibody production against HPV is important in preventing the spread of infection and reinfection. In addition, the cell-mediated immune response has been shown to cure most HPV infections within 12 years. In fact, many seroprevalence studies have been conducted in resource-rich countries, and some in resource-poor countries. Genital HPV is the leading cause of cervical cancer. The high incidence of cervical cancer in developing countries reflects the inadequacy and inadequate capacity of existing screening programs to detect precursors or early stages of cervical cancer. Recently, we have shown that the prevalence of HPV is low and the distribution of HPV types is uneven in Arab women with normal or abnormal cytopathology.

HPV is one of the most common sexually transmitted diseases in the world, and most sexually active men and women are infected for life. Epidemiological HPV data can be collected at the STD Clinic. The prevalence and genotype distribution of HPV in China are geographically different. Although Tianjin is a major city in northern China, there are no HPV epidemiological data on high-risk groups in Tianjin. We investigated the prevalence and subtype distribution of HPV in outpatients with sexually transmitted diseases at Tianjin Medical University General Hospital.

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