



SPECIAL REPORT

Infection of endothelial cells by human herpesvirus-6 is associated with profound changes in the healing process, with possible consequences for cardiac disease and cancer.

BALTIMORE, MD (June 24, 2008) – A new study suggests for the first time that human herpesvirus 6 (HHV-6) infects and persists in a dormant state in endothelial cells, the cells lining blood vessels, and causes these cells to lose their ability to grow, to form new blood vessels, and to take part in healing processes. This finding was announced at the 6th International Conference for HHV-6 & 7 by a team of Italian researchers, professors Arnaldo Caruso of the University of Brescia and Dario Di Luca of the University of Ferrara.

The experiments performed on pure endothelial cells grown in the laboratory allowed Professors Caruso and Di Luca to discover that U94, a viral protein produced during the viral latency, is responsible for these biological effects. In fact, during the conference, German researchers reported that HHV-6 is found in cardiomyopathy. “It is possible that the expression of U94 damages endothelial cells of the heart, causing the disease or delaying recovery,” said Dr. Di Luca. “The understanding of this phenomenon could be important for the diagnosis and management of some heart diseases,” he added.

An impact on tumor-fighting therapies?

The production of new blood vessels (angiogenesis) is a very important biological process that occurs naturally in the body. However, an excess of angiogenesis can be harmful. If tumors do not form new blood vessels, they do not receive enough blood with the necessary nutrients and cannot grow. Therefore, blocking angiogenesis is important for stopping tumor growth. Currently, the Italian research team is performing advanced experiments toward the development of new anti-tumor therapies based on the inhibition of blood vessel formation by U94. The production of U94 might limit tumor growth by preventing the formation of new blood vessels.

Human herpesvirus 6 (HHV-6) is a virus commonly found in healthy adults. The virus infects for the first time during early childhood, causing a few days of fever and a temporary skin rash; spontaneous healing quickly occurs. After this first encounter with the body, the virus persists in a dormant state. This life-long latent infection usually does not cause any disease. However, the virus can activate, usually in patients with immune deficiencies or taking immune suppressive drugs, and can cause life-threatening diseases. Other researchers have reported that HHV-6 may be linked also to diseases of the central nervous system, such as multiple sclerosis, encephalitis, chronic fatigue syndrome and epilepsy.

#

Contact:

Kristin Loomis

Executive Director

HHV-6 Foundation

Phone: 805-969-1174

<http://www.hhv-6foundation.org/>