

Origin of chronic lymphatic leukaemia: lead discovered

April 11 2012



Up until now the causes of the development of chronic lymphatic leukaemia, the most common form of cancer of the blood in Europe, have been unknown. At present a cure is not possible. A research group at the MedUni Vienna led by Christoph Steiniger of the University Department of Internal Medicine I has now however discovered a lead on the origin of this disease. Says Steiniger: "This could influence the therapy approach taken in treating chronic lymphatic leukaemia."

For approximately 20 years it has been suspected that chronic lymphatic leukaemia occurs through the stimulation of [B cells](#) with other factors also playing a part. In the current research study, which has been published in the journal *Blood*, the scientists were looking for an antigen that attaches itself to the leukaemia [cell receptors](#) and they were able to identify the protein pUL32 of the human cytomegalovirus.

Virus "conceals" itself in cells

The cytomegalovirus, a member of the herpes family of viruses, is carried by approximately 60 to 70 percent of the Austrian population without them getting ill from it and without them even noticing that they are carrying the virus. In most cases people are infected with the virus during childhood. After being infected, the virus goes on to survive in the cells of the immune system their whole life long. The virus conceals itself within the cells and in addition it confuses the immune system with its own [chemical messengers](#).

Only when the immune system in an infected person is weakened, for example by medical suppression as part of an organ transplant or in an HIV-illness, can the virus make someone ill. Whether this [virus infection](#) can trigger leukaemia, or whether the connection observed between leukaemia and the cytomegalovirus points to another mechanism, independent of the virus, in the origin of the cancer is now the subject of several follow-up studies.

One of the follow-up studies is looking at whether an [antiviral treatment](#) against the cytomegalovirus can prevent the leukaemia cells from being stimulated and so prevent the further advance of the disease.

More information: „Recombinant antibodies encoded by IGHV1-69 react with pUL32, a phosphoprotein of cytomegalovirus an B-cell superantigen.” C. Steininger, et al. Kipps. *Bloodjournal*, [doi: 10.1182/blood-2011-08-374058](https://doi.org/10.1182/blood-2011-08-374058)

Provided by Medical University of Vienna

Citation: Origin of chronic lymphatic leukaemia: lead discovered (2012, April 11) retrieved 25 April 2024 from <https://medicalxpress.com/news/2012-04-chronic-lymphatic-leukaemia.html>

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