

Virus and genes involved in causation of schizophrenia

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For the first time, an international team of researchers has found that a combination of a particular virus in the mother and a specific gene variant in the child increases the risk of the child developing schizophrenia.

Viruses and genes interact in a way that may increase the risk of developing schizophrenia significantly. This happens already in the developing foetus.

An international team of scientists led by Aarhus University, Denmark, has made this discovery. As the first in the world, they scanned the entire genome of hundreds of sick and healthy people to see if there is an interaction between genes and a very common virus - cytomegalovirus - and to see whether the interaction influences the risk of developing schizophrenia.

And it does.

Women that have been infected by the virus - and around 70 % has - will have a statistically significant increased risk of giving birth to a child who later develops schizophrenia if the child also has the aforementioned [gene variant](#). This variant is found in 15 percent. The risk is five times higher than usual, the researchers report in [Molecular Psychiatry](#).

No cause for alarm

People infected with cytomegalovirus most often do not know it, as the infection by the virus, which belongs to the herpes virus family, is usually very mild. But the researchers stress that there is no cause for alarm - even if both [risk factors](#) are present in mother and child, there may be a variety of other factors that prevents disease development in the child.

But as schizophrenia affects 1 per cent of the [global population](#), this new knowledge is very important.

"In the longer term, the development of an effective vaccine against [cytomegalovirus](#) may help to prevent many cases of schizophrenia," says Professor of [Medical Genetics](#) at Aarhus University, Anders Børglum.

"And our discovery emphasizes that mental disorders such as schizophrenia may arise in the context of an interaction between genes and biological environmental factors very early in life."

More information: Genome-wide study of association and interaction with maternal cytomegalovirus infection suggests new schizophrenia loci, www.ncbi.nlm.nih.gov/pubmed/23358160

Provided by Aarhus University

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