

Medical Research Agency

<https://www.abm.gov.pl/en/news/115,Scientists-at-Bialystok-Medical-University-have-identified-a-genetic-variant-tha.html>
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Scientists at Białystok Medical University have identified a genetic variant that more than doubles the risk of severe progression and death from COVID-19

Since the beginning of the COVID-19 pandemic, we have been trying to understand why even people of the same age are infected without symptoms and others are fighting for their lives and not always winning.

Thanks to the study carried out by scientists of the Medical University of Białystok, we are getting closer to understanding this phenomenon. In a project led by Prof. Marcin Moniuszko and dr. hab. n. biol. Mirosław Kwaśniewski was able to identify a genetic variant that more than doubles the risk of severe progression and death from COVID-19. It is estimated that up to 14% of the Polish population owns them, although it is around 9% of the European population. According to the authors, the discovery may help to identify the most vulnerable patients at an early stage.

A study conducted in almost one and a half thousand patients with COVID-19 as part of a project funded by the Medical Research Agency confirmed that our genes have a significant influence on how we develop COVID-19. The study was conducted under the leadership of the Medical University of Białystok together with technology partner ImagenMe, the Institute of Pulmonary and Tuberculosis Disease in Warsaw. Of particular importance was the enormous commitment of more than a dozen clinical centers from all over the country.

The study showed that, in addition to advanced age and obesity, our genetic profile is a risk factor for a severe course of COVID-19, even more important than so-called co-diseases. If you have a version of the gene on chromosome 3, the risk of serious or even fatal COVID-19 disease with coronavirus infection is more than twice as high.



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The results of this discovery allow the creation of a relatively simple genetic test (with a similar level of difficulty as the current SARS-CoV-2 test), which would help to identify the individuals at risk by identifying a genetic variant associated with chromos 3.

- Although our research results are still a scientific discovery, we hope they will develop a test that is accessible to patients, doctors and diagnosticians to identify people at higher risk for a serious disease. Such a test can help to better identify people before infection who are susceptible to sudden disease progression in the event of infection. This would allow such persons to receive special care at an early stage, more protection, both preventive (additional doses of protective vaccines) and medical (new therapies against SARS-CoV-2), suggests Prof. Marcin Moniuszko, Vice-Rector for Science and Development of the Medical University of Bialystok, project leader.

-So far we have stated age and obesity as responsible for the severe passage of COVID-19. Thanks to the work of a year and a half scientists funded by the Agency for Medical Research, we will identify people who are at risk of serious illness. In the future, we will be able to use this knowledge to create a rapid diagnostic test for COVID-19 prevention. - stressed Minister of Health Adam Niedzielski.

As the President of the Medical Research Agency, MD. PhD.. Radosław Sierpiński points out, "It is very important that we, as the Agency for Medical Research, were able to create the conditions for Polish scientists to develop research projects in the fight against COVID-19. With such projects, we can stop the development of pandemics and, above all, protect those who are exposed to the most serious infection. It should be emphasised that Polish innovative solutions flow directly into the healthcare system and not only influence its performance, but above all the protection of the health and life of Polish patients.

At this stage, it is crucial to support the Medical University of Bialystok by the Patent Office of the Republic of Poland in the field of protection of intellectual property and preparation of fertile soil for the smooth transition of the implementation path and systemic financing by the Office for the Registration of Medicines, Medical Devices and Biocidal Products, the Agency for the Registration of Medicines, Medical Devices and Biocidal Products, the Agency for Evaluation of medical technologies and certification to determine the Ministry of Health and the National Health Fund.

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