LOSS OF SMELLS IN COVID BOOSTS THE IMMUNE RESPONSE

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Annotation: In those infected with COVID-19 who have lost their sense of smell, antibodies to the virus can be produced longer and more actively than those who did not have this symptom, a study by Italian scientists showed. This may be due to the long-term persistence of the virus in the olfactory bulb, which, through local inflammation and the release of antigens, maintains and enhances the response of protective proteins.
Key words: COVID-19,virus,SARS-CoV2,coronavirus.

Scientists at the Faculty of Biomedical Sciences of the University of Humanitas (Italy) have published preliminary data from a study of antibodies to SARS-CoV-2 in staff from nine medical institutions in the north of the country. Previously, experts were able to show that serological analysis for SARS-CoV-2 allows you to track the spread of the virus in medical institutions in areas affected by the virus in different ways. After five months, the scientists analyzed the duration of the antibody response and assessed whether there are features that correlate with the maintenance, decrease, or enhancement of this response. They looked for a link between the production of protective proteins, certain physical characteristics of people and the symptoms of COVID-19.

The researchers hypothesized that the increased antibody response in patients with loss of odor may be associated with persistence (long-term persistence of the virus in the host) of SARS-CoV-2 in the olfactory bulb, which, through local inflammation and antigen release, maintains and enhances the antibody response.

However, the phenomenon of odor loss in coronavirus itself is still not fully understood by researchers. Smell is a complex, well-coordinated system of receptor cells in the nasal mucosa, conductive nerve fibers and the olfactory center of the brain. If any link does not work properly, the process of smelling is disrupted.

After finding out the reasons that caused anosmia, the doctor prescribes the correct treatment. Sometimes patients are advised to conduct olfactory training on their own: regularly inhale aromatic odoriferous substances, for example, the aroma of essential oils. This method is safe, available at home, and allows you to assess the dynamics of recovery of the sense of smell.

Moisturizing promotes mucosal regeneration, reduces inflammation and strengthens local immunity. To speed up the recovery of peripheral nerve cells of the olfactory analyzer, B vitamins are prescribed, the doctor said.

The enhanced antibody response in patients who have lost their sense of smell is worth investigating further, Italian scientists say. This work will open up new perspectives in the study of immunity to SARS-CoV-2, they are sure. The new data may be useful for making decisions on strategies for personal protection of recovered health workers, in matters of vaccination, as well as in understanding the general mechanisms of the immune response to COVID-19.

Now we know about two proteins that work as receptors for the new coronavirus - that is, help it enter cells. Scientists from Harvard discovered that there are cells in the nose with both of these proteins on the surface, which means that the virus infects them easily. These cells surround the olfactory neurons and are involved in their "support" - apparently, when they cease to function normally, the sense of smell disappears. Such anosmia can last for several weeks, and the situation returns to normal along with a general recovery from the disease.

Children are traditionally at risk of various infections, including respiratory infections - all the more surprising because the incidence of COVID-19 in general and the number of severe cases among children remains much lower than among adults. In an attempt to explain why this is happening, scientists have put forward several hypotheses. It is known that too strong immune response to infection leads to severe complications in adults. Perhaps children's immunity is working at an optimal level of intensity - that is, the immune response in children is not too weak or too strong. However, in babies, it may still be insufficient: according to one Chinese study, most severe cases of COVID-19 among children were observed under the age of five.

Another possible explanation is the increased readiness of the children's immune system to combat coronaviruses. This is explained by the fact that children in schools and kindergartens constantly communicate with a large number of people and, as you know, often get sick with ARVI. True, this theory also has opponents - perhaps antibodies to other coronaviruses, on the contrary, help SARS-CoV-2019 to enter cells, and then this does not explain the advantage that children clearly have. Rarer cases of COVID-19 in children may also be due to the fact that they have fewer receptors called ACE2, through which the virus enters lung cells (although this hypothesis is controversial). Be that as it may, it is important to remember that children, even very young, can get sick with COVID-19 and transmit the infection to others, which means that they must follow all the hygiene and isolation measures that are applicable to adults.

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