

Doctoral dissertation entitled

“Assessment of otolaryngological and general symptoms prevalence and the titer of anti-SARS-CoV-2 antibodies in the course of covid-19 infection.”

Summary

The SARS-CoV-2 coronavirus first occurred in China in December 2019, its rapid spread resulted in the COVID-19 pandemic declaration by the World Health Organization in March 2020. First case of infection in Poland appeared at this time. This virus has caused many demographic and economic losses, and its presence is still a current health problem, which is why more research is needed to improve the diagnosis, prevention and treatment of COVID-19. Many symptoms of SARS-CoV-2 infection are otolaryngological symptoms, and their incidence varies between publications. A similar divergence appears in the results regarding the level of anti-SARS-CoV-2 antibodies in the plasma of COVID-19 convalescents. The reason may be a multitude of factors affecting the results, such as sex, comorbidities or geographical region which results in the presence of a different virus mutation. The research submitted for the doctoral dissertation was carried out on a Polish population free from comorbidities, and the level of antibodies was determined at different times from infection. The data was collected before COVID-19 vaccination appeared in Poland, thus the antibodies in the plasma of convalescents were formed only in the course of the SARS-CoV-2 infection.

Aims of the study

Study purpose was to determine the otolaryngological symptoms prevalence in the course of COVID-19 in patients in the Pomeranian region, to assess the period from the onset of illness in which the plasma of convalescents contains the highest amount of anti-SARS-CoV-2 antibodies, to select COVID-19 convalescents who are the best plasma donors, assess the correlation between the severity of the infection and the level of anti-SARS-CoV-2 antibodies, and to determine the correlation of each otolaryngological symptom with the level of anti-SARS-CoV-2 antibodies.

Materials and methods

The methodology of the research, the materials used, the research group and the methodology of statistical analysis were described in the articles submitted for the doctoral dissertation.

Results

The research defined fatigue, muscle and joint pain as the most common general symptom, and olfactory and taste disorders as the most common otolaryngological symptom. The biggest increase of anti-SARS-CoV-2 antibodies level in the convalescents' plasma was stated two months after infection, and higher antibody titers were recorded in men than in women, with a severe course of COVID-19 and in people above the mean age. The conducted studies documented the correlation of the otolaryngological symptoms occurrence with the level of antibodies, but it was not recorded in terms of sex.

Conclusions

- The most common general symptom of COVID-19 is fatigue and muscle and joint pain.
- The most common otolaryngological symptoms of COVID-19 are smell and taste disorders, dry cough, sore throat, shortness of breath and vertigo.
- The greatest increase in anti-SARS-CoV-2 antibodies was observed up to 59 days after the isolation period.
- An increasing trend in the titre of anti-SARS-CoV-2 antibodies was observed depending on the time from infection (in the whole group, while in the group of women an inverse correlation).
- Higher titers of anti-SARS-CoV-2 antibodies were observed in the group above the mean age.
- Optimal plasma donor is a male convalescent over 39 years of age after a severe course of COVID-19 infection.
- The age of the subjects affects the occurrence of smell and taste disorders.
- Smell and taste disturbances were more common in younger patients, and antibody titers were lower, in contrast to higher antibody titers associated with dry cough, shortness of breath, and dizziness.

- There were no statistically significant differences between sex and the occurrence of any ENT symptoms of COVID-19.