

ABSTRACT

The aim of this diploma thesis was to describe information about SARS-CoV-2 virus and coronavirus disease (COVID-19), to evaluate the course of the disease in the Home with a special regime in Břevnice, in which the epidemic took place at the beginning of the first wave of COVID-19 pandemic in spring 2020. Another goal was to perform an antibody analysis and evaluate the obtained data. I divided the diploma thesis into three main parts: theoretical, experimental and discussion.

In the theoretical part, I worked with the literature and described information related not only to COVID-19, but also to other serious infections caused by human coronaviruses.

In the experimental part, which I performed in the immunological laboratory of the Department of Joint Laboratories at Havlíčkův Brod Hospital, I dealt with the issue of the clinical course of the disease, the severity of the disease and possible consequences after the infection. I also dealt with methods for the determination of antibodies, the principles of which are described in Chapter 4.5. The diagnostic methods and procedures used are described in Chapter 5.3 Laboratory Assays. From the obtained data, I prepared graphs and tables and processed data on the clinical course of the infection in the Břevnice Home, both for the clients and the employees affected by the infection in the spring of 2020.

In the discussion part, I summarized the data obtained from the Home in Břevnice and compared them with the literature.

The most important finding of this work is that the level of IgG (immunoglobulin G) and IgA antibodies was detected in the clients in January 2021, ten months after the first positive PCR test. Lower levels of antibodies were detected in the employees than in the clients, and in November 2020, eight months after the first positive PCR test, antibody levels were positive in only a quarter of them.

Key words: COVID-19, antibody response, epidemiology, SARS-CoV-2, residential care home