Introduction to the Polish branch of the INNODIA program
Program INNODIA – wprowadzenie

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Introduction

Type 1 diabetes (T1D) is an autoimmune disease in which the beta cells of the pancreas that produce insulin are destroyed by T lymphocytes [1]. According to the World Health Organization, in 2019 alone, diabetes was the direct cause of 1.5 million deaths [2].

So far, the disease process is not fully understood, and a cure has not yet been developed, which is why diabetes is one of the priority diseases under research in the World Health Organization's first and second programmes of Innovative Medicines Initiative (IMI1 and IMI2) [3]. Of the 13 projects funded by IMI until October 2019, only one was targeted to type 1 diabetes – **INNODIA** [3].

INNODIA – "To fight type 1 diabetes"

INNODIA is unique global multicentre research program that connects academic researchers, pharmaceutical companies, doctors, and patients. Thirty-one academic institutions, 6 industrial partners, a small sized enterprise, and 2 patient organizations [4] share one significant goal: "To fight type 1 diabetes".

In the research facilities associated with the INNODIA program, blood samples and data are collected from newly diagnosed patients with type 1 diabetes and their first-degree relatives [4]. Data collected from numerous institutions will allow the study of the evolution of the disease in individual patients, help to develop new methods to predict relatives' risk of developing disease, and eventually find a cure for patients with T1D.

To be able to develop better, more effective therapies for patients or to predict the individual risk of disease development in relatives, work is underway to identify new disease biomarkers that can be found in the blood of diabetic patients. For this purpose, advanced technologies and modern research tools that are already available or under development are being used.

Many years of research conducted in connection with the INNODIA project will allow us to better understand the relationship between changes in β-cell function, immune profiles, genetic and environmental factors, and their role in the onset of the disease [4].

Currently, the type 1 diabetes therapy concept consists mainly of insulin therapy, and the indication for insulin therapy is permanent and lifelong [5]. Therefore, the second major goal of INNODIA is to perform the clinical intervention studies VER-A-T1D, MELD-ATG, CFZ533, and IMPACT, which started in 2020 [4]. It will be possible to test new potential therapeutic agents for effectiveness, thanks to the cooperation of the pharmaceutical company and academic clinical researchers within the project.

Polish contribution to the INNODIA project

The Medical University of Silesia and the Department of Paediatrics and Children's Diabetology of the Upper Silesian Child Health Centre in Katowice is the only facility in Poland participating in the INNODIA project. Since 2015, research has been carried out under the supervision of MD PhD Prof. Przemysława Jarosz-Chobot.

During these few years, hundreds of samples have been collected as part of the program in Poland, which will allow for the creation of a unique clinical base and biobank of patients with a high risk of developing T1D and with a newly diagnosed T1D. So far, the clinic in Katowice has recruited about 300 diabetic patients and their family members to participate in the research project. The first signs of diabetes were detected in nearly 30 people during the research for the purposes of the program [6].

Historically, type 1 diabetes was largely considered a disorder in children and adolescents, but this opinion has changed over the past decade, so age at symptomatic onset is no longer

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a restricting factor [7]. Therefore, as part of the implementation of the program in Poland, any person from 1 to 45 years old who has been diagnosed with diabetes in the last 6 weeks can participate in the study. Participation in the study will last approx. 2 years and will include 5 visits, during which blood, urine, and stool samples will be collected, which will allow the creation of

a biobank – a database for researchers [6]. If you would like to take part in this initiative, or for more information, visit https://www.innodia.eu/ and https://gczd.katowice.pl/diabetologia/projekt-innodia/. Only our common motivation and mutual support will allow us to overcome this disease.

References

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