

ABSTRACT

This diploma thesis deals with the issue of celiac disease with a focus on the importance of micronutrients in treatment and clinical monitoring of patients with celiac disease. The thesis is divided into two parts, theoretical and practical.

The theoretical part is divided into two chapters. The first chapter deals with celiac disease in general – history, epidemiology, pathogenesis, clinical classification, clinical manifestations, diagnostics and complications of celiac disease. Procedures for clinical monitoring of patients with celiac disease are also discussed. Last but not least, cereal proteins are analysed with a focus on gluten and its importance in the pathogenesis of celiac disease.

The second chapter describes gluten-free diet as the only available possibility how to treat celiac disease. Furthermore, the pitfalls of the gluten-free diet and its possible nutritional imbalances associated with a gluten-free diet. The issue of gluten-free products is discussed, both in terms of legislation and in terms of selecting suitable foods. The possibilities of supplementation of micronutrients in celiac and other investigated possibilities of treatment of celiac disease outside the gluten-free diet are also mentioned.

The practical part of this diploma thesis has two main goals. The first goal is to characterize a group of adult patients with celiac disease. Obtain information about their gender, average BMI, average age at the time of newly diagnosed celiac disease.

The second goal is to map trends in the performance of examinations of specific laboratory indicators in adult with celiac disease with a focus on micronutrients. To determine which examinations are performed at newly diagnosed patients with celiac disease, to compare the obtained laboratory values before the introduction of a gluten-free diet with the reference values for the specific laboratory indicators and to compare changes in their levels for selected laboratory indicators before and after the introduction of gluten-free diet.

The first part of the research shows that celiac disease predominates in women, most patients were diagnosed with celiac disease between the ages of 25 and 40, and their average BMI is lower than the average BMI of the general population.

The second part of the research focused on the examination of specific laboratory indicators pointed to the fact that examinations of micronutrient levels are not sufficiently performed, both in newly diagnosed patients with celiac disease and in long-term monitored patients with celiac disease. When comparing the levels of specific laboratory indicators in the period of newly diagnosed celiac disease with reference values, it was shown that 25% of patients had low level of haemoglobin and 31% of patients had iron deficiency. Only very limited data were available to evaluate the levels of vitamin D, B12 and folic acid. Due to the significance and often persistent deficit of these micronutrients, it is necessary to emphasize their monitoring in the future. Data for the last part of the study, which focused on the differences between the levels of specific laboratory indicators before and after the introduction of gluten-free diet, were available only for haemoglobin, iron and calcium levels. Iron and calcium levels increased in the majority of the examined patients. The level of haemoglobin decreased in the majority of the examined patients, but even so, the resulting average value of haemoglobin after the introduction to gluten-free diet exceeded the average value of haemoglobin before the introduction to gluten-free diet.

Keywords: celiac disease, gluten free diet, micronutrients

