

ABSTRACT

Charles University

Faculty of Pharmacy in Hradec Králové

Department of Biochemical Sciences

Candidate: Mgr. Bc. Helena Vondráčková

Supervisor: prof. Ing. Barbora Szotáková, Ph.D.

Specialist consultant: MUDr. Pavel Pick

Title of diploma thesis: Relationship between compensatory status and renal function in patients with diabetes mellitus type II

Diabetes mellitus is a chronic disease accompanied by a number of complications. Among the most common and at the same time the most serious are kidney diseases, which often lead to their failure. These patients then rely on lifelong dialysis treatment or a possible kidney transplant. By compensating for diabetes mellitus effectively, the development of complications can be reduced or at least delayed. Fasting and postprandial blood glucose level and glycated hemoglobin are used to assess the state of compensation. The renal function is assessed by the examination of albumin and proteins in urine, serum creatinine concentration and estimation of glomerular filtration.

The aim of the thesis was to determine whether there is a relation between the level of compensation for diabetes mellitus and the renal function. The data from 70 patients diagnosed with diabetes mellitus type II regularly checked in a diabetological clinic were evaluated. Samples were processed on analyzers - G7 and BS 480 from Medesa s.r.o. Regression analysis was used to evaluate the data. The relation between the level of compensation for diabetes mellitus and the renal function could not be proved in the sample using the selected parameters. However, a statistically significant relation between the renal function and the patient's age and between glomerular filtration obtained by computational methods and serum creatinine concentration was proved.