

## **Abstract**

### **Cardiorenal syndrome and detection of early changes in kidney and myocardial function including determination of risk factors in asymptomatic patients with arterial hypertension**

The presented thesis aimed at determining the possibility to identify changes related to cardiorenal syndrome development in patients with satisfactorily compensated arterial hypertension. In the group of 96 patients within the period of 2 years we repeatedly examined 24-hour blood pressure monitoring, ultrasound imaging (echocardiography, renal resistive index), a set of laboratory analyses of cardiac and renal functions, and analyzed the relations between the blood pressure values and the monitored cardiac and renal parameters. In the preliminary examination we discovered an association between the 24-hour diastolic pressure and glomerular filtration. The main finding based on the follow-up monitoring was the rise of the renal resistive index and its significant correlation with the ratio of diastolic to systolic pressures without any relation to changes in anti-hypertension medication. By contrast, we did not identify any significant changes when evaluating the cardiac parameters. The results of the research emphasize the importance of monitoring not just systolic, but also diastolic blood pressure, to recognize a possible development of renal functions disorder. Based on the final results, we conclude that the possible development of cardiorenal syndrome within the given group of patients depends on the dynamics of renal functions changes.

Key words: 24-hour blood pressure monitoring, arterial hypertension, cardiorenal syndrome, diastolic blood pressure, diastolic to systolic blood pressure ratio, renal resistive index