INTRODUCTION

Modern life has brought with it profound changes in lifestyle and increased incidence of atherosclerotic vascular disease. Body weights are on rise, diets are becoming less healthy and people are becoming increasingly sedentary. Moreover, it imposes many demands that lead to more difficulties in coping with them and more chronic stress ***(Hjemdahl, 2002).***

Hundreds of studies over the last twenty five years have shown that chronic stress contributes to increased incidence of common life-threatening diseases including cardiovascular diseases, endocrine disorders, strokes and cancer ***(Micultkova et al., 2004).*** However, cardiovascular diseases (CVD) continue to be the main cause of death and disability in most industrialized countries ***(Bouskela et al., 2007).***

The mechanisms linking chronic stress to the development of atherosclerosis and CVD are not yet completely understood ***(McEwen, 2002)*** but, recently, the metabolic syndrome (insulin resistance syndrome; IRS); a cluster of metabolic and hemodynamic abnormalities including insulin resistance and associated hyperinsulinemia, glucose intolerance, atherogenic dyslipidemia (reduced high density lipoprotein and elevated serum triglycerides, low density lipoprotein and free fatty acids), high blood pressure and abdominal obesity ***(Innes et al., 2007),*** has been recognized as an important risk factor for CVD and all cause mortality ***(Malik et al., 2004)***.

The causes of metabolic syndrome (MS) are uncertain. However it is suggested that chronic psychological stress and its related destructive cascades of neuroendocrine, metabolic, inflammatory and

neuropsychological changes as well as disturbances in cardiac autonomic activity (CAA) contribute to IRS- related abnormalities and ultimately CVD ***(Innes et al., 2007).*** However, Confirmatory prospective studies are required ***(Brunner et al., 2007).***

A large body of evidence suggests existence of a relationship between renin-angiotensin system and the stress response ***(Aguilera et al., 1995)***. Angiotesin II is now classified as an important stress hormone ***(Saavedra and Benicky, 2007).*** It is suggested that blockade of angiotensin II receptors may be important for prevention and treatment of diabetes mellitus and CVD that are usually associated with stress as well as other induced disorders ***(Uresin et al., 2004).***

AIM OF THE WORK

Is to investigate the effect of chronic immobilization stress, which is thought to be a mixture of physical and physchological stressors, on selected parameters of the metabolic cardiovascular risk factors in rats and to clarify the effect of angiotensin II- type 1 receptor blocker (losartan) on these parameters under normal and chronic stressful conditions.