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ENDOTHELIAL DYSFUNCTION IN HYPERTENSION

Abstract: Hypertension is strongly connected with blood vessels structural and functional changes and endothelium as endocrine and functional organ has important role in blood pressure and haemodynamic regulation. Many vasoconstrictory and vasodilatory molecules are synthesized, secreted or directed by endothelium, and their balance regulates both blood vessels function and blood pressure value. The central roles in this regulation have the most potent vasoconstrictory agents as like as endothelins and angiotensin II and potent vasodilatory molecule nitric oxide. Endothelial damage, loose of functionality or even denudation, due to hypertension, lead to changes of vascular reactivity and structure. Free oxygen radicals have important role in hypertension-induced damage of endothelium. They are signal or modulator molecules in physiologic conditions, but very toxic in pathophysiology, at most in part by cell membrane structural damage. Endothelium is attractive target for investigation during the last decade, and many therapeutic strategies have developed to abolish disbalance of vasoconstrictory and vasodilatory endothelial mediators.

Keywords: *endothelium, hypertension, endothelins, nitric oxide, reactive oxygen radicals, angiotensin II*