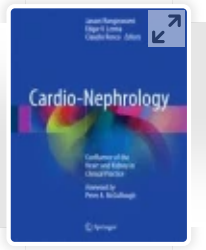

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Endothelial Dysfunction and Nitric Oxide: Albuminuria as a Central Marker

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Abstract

The endothelium is the largest organ in the body strategically located between the wall of blood vessels and the blood stream. The principal physiologic stimulus for endothelial nitric oxide (NO) synthesis is blood flow-induced shear stress, a process termed “flow-mediated vasodilatation”, which is a clinical assessment of endothelial well-being. Endothelial cell damage or injury is invariably associated with thrombosis, hypertension, and atherosclerosis. Albuminuria

has been associated with cardiovascular disease that is synergistic with conventional risk factors in both nondiabetic and diabetic patients. The mechanism by which albuminuria is associated with cardiovascular disease is not well understood, however, the presence of albuminuria signals impaired endothelial function. In this chapter, the mechanisms of endothelial dysfunction, including the contributing role of albuminuria are discussed.

Keywords

Endothelium **Microalbuminuria**

Cardiovascular disease

Chronic kidney disease **Nitric oxide**

Diabetic nephropathy