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Prof.Dr.Nuray ARI, 2018

- [J Biomed Sci.](#) 2017 Jul 27;24(1):50. doi: 10.1186/s12929-017-0357-5.
- Role of free fatty acids in endothelial dysfunction.
- [Ghosh A](#), [Gao L](#), [Thakur A](#), [Siu PM](#), [Lai CWK](#).
- Abstract
- Plasma free fatty acids levels are increased in subjects with obesity and type 2 diabetes, playing detrimental roles in the pathogenesis of atherosclerosis and cardiovascular diseases. Increasing evidence showing that dysfunction of the vascular endothelium, the inner lining of the blood vessels, is the key player in the pathogenesis of atherosclerosis. In this review, we aimed to summarize the roles and the underlying mechanisms using the evidence collected from clinical and experimental studies about free fatty acid-mediated endothelial dysfunction. Because of the multifaceted roles of plasma free fatty acids in mediating endothelial dysfunction, elevated free fatty acid level is now considered as an important link in the onset of endothelial dysfunction due to metabolic syndromes such as diabetes and obesity. Free fatty acid-mediated endothelial dysfunction involves several mechanisms including impaired insulin signaling and nitric oxide production, oxidative stress, inflammation and the activation of the renin-angiotensin system and apoptosis in the endothelial cells. Therefore, targeting the signaling pathways involved in free fatty acid-induced endothelial dysfunction could serve as a preventive approach to protect against the occurrence of endothelial dysfunction and the subsequent complications such as atherosclerosis.