

Pathophysiology of vibration-induced white fingers – current opinion: a review

Liapina M., Tzvetkov D., Vodenitcharov E.

Department of Hygiene and Ecology, Medical University, Sofia, Bulgaria

Summary

Vibration-induced white finger (VWF) is secondary Raynaud's phenomenon caused by vibrating hand tools. Initially described in 1911 by Loriga, the pathophysiology of VWF remains unclear. This review attempts to summarize the current common and the most modern theories of the pathogenesis of VWF and propose a model of multifactorial etiology. The role of vasoregulatory abnormalities - autonomic dysfunction, local vasoregulatory abnormalities, of the endothelial cell control, of haemostasis, fibrinolysis and haemorrheology, of the leukocyte activation and the levels cell adhesion molecules and pro-inflammatory cytokines have been reviewed.

Key words: vibration-induced white fingers, vascular tone, endothelium, leukocyte activation, haemorrheology, Raynaud's phenomenon

Address for correspondence: M. Liapina, Medical University, Department of Hygiene and Ecology, "Dimitar Nestorov" 15 blvd., 1431 Sofia, Bulgaria