

**EICOSANOID PRODUCTION AND LYMPHATIC RESPONSIVENESS
IN HUMAN CIGARETTE SMOKERS COMPARED WITH NON-SMOKERS****H. Sinzinger, J. Kaliman, A. Oguogho**

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ABSTRACT

Leg lymphatic segments were isolated from 10 patients (4 cigarette smokers and 6 non-smokers) undergoing conventional lymphography. Prostaglandin (PG) levels and PG synthesis in the lymphatics and in a variety of body fluids and the effects of eicosanoids on lymphatic contractility were determined. Leg lymphatics from 4 smokers generated less PGI₂ and contained more 8-epi-PGF_{2α} when compared with leg lymphatics in 6 non-smokers. Similarly, levels of 8-epi-PGF_{2α} in smokers compared with non-smokers were higher in plasma (28.6 cf 19.7 pg/ml), leg lymph (146.7 cf 65.3 pg/ml), serum (299.0 cf 204.1 pg/ml), and urine (473.4 cf 241.0 pg/mg creatinine). Lymphatics from smokers also showed a higher contractile response, less ¹⁴C-arachidonic acid conversion to PGI₂ and less PGI₂-formation with various stimuli compared with non-smokers. Together these findings suggest that smoking induces oxidation injury, promotes altered (iso-)eicosanoid production and impacts on the function and dysfunction of peripheral lymphatics under normal circumstances and in a variety of clinical disorders.