

**Peripheral vascular reactions to smoking--profound vasoconstriction by atherosclerosis.**

*Fushimi H, Kubo M, Inoue T, Yamada Y, Matsuyama Y, Kameyama M; Department of Medicine, Sumitomo Hospital, Osaka, Japan.* Analyses of direct effects of smoking on peripheral arteries were done using thermography, blood fluorometry and echography on 97 habitual smoker-diabetics without triopathy. There were found to be four types of thermographic changes following smoking, which varied according to the degree of atherosclerosis of the artery. The smoking-stimulated thermographic pattern in the control group of healthy volunteers was a small wavy pattern, fluctuating along the base line every few minutes within a temperature range of 1.0-1.5 degrees C (N type). In diabetics, four types of thermographic patterns were produced: normal (N) type as control, increasing (I) type (increasing in skin temperature), decreasing (D) type (decreasing in temperature), and F type (no changes in temperature). The most significant finding was the decreasing pattern which closely connected to clinical and echographic aspects of macroangiopathic changes. The increasing type was characterized by a paradoxical increase in temperature after smoking in order diabetics with good blood glucose control and who were less atherosclerotic. Blood flow was correlated to the skin temperature at the base state and changes after smoking. Moreover, blood flow changes measured by fluorometry suggest that vasoconstriction or vasodilatation following smoking took place. These results suggest that this smoking test might be a good tool for diagnosing for the degree of atherosclerosis and for its following up.