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Intracoronary thermography.

Schmermund A, Rodermann J, Erbel R. Department of Cardiology, University Clinic Essen, Germany. Axel.

Arteriosclerosis is an inflammatory disease. Inflammatory processes play a role in the initiation of plaque development and the early stages of the disease as well as in complex plaques and complications such as intraarterial thrombosis. A method to detect inflammation in coronary arteries has the potential to characterize both local and systemic activation of arteriosclerotic plaque disease. It could help to define in more detail what constitutes a vulnerable plaque or vulnerable vessel and thus improve the prediction of acute coronary syndromes. Intracoronary thermography records a cardinal sign of inflammation. Heat is probably produced by (activated) macrophages. Experimental work has suggested that thermal heterogeneity is present in arteriosclerotic plaques and that increased temperature is found at the site of inflammatory cellular-macrophage-infiltration. **Preliminary experience in patients undergoing coronary angiography has demonstrated that it is safe and feasible to perform intracoronary thermography using various systems.** A graded relationship between thermal heterogeneity and clinical symptoms has been reported, with the greatest temperature elevation in acute myocardial infarction. Increases in thermal heterogeneity appeared to be associated with a comparably unfavorable long-term prognosis. Intracoronary thermography has the potential to provide insights into location and extent of inflammation as well as the prognostic consequences. Currently, this novel method and the underlying concepts are extensively evaluated.