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Immune-inflammatory processes in the pathogenesis of atherosclerosis: Focus on the role of pericyte-like cells as the second line of immune defence in the arterial intima

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Abstract

Inflammation plays an essential role in the development of atherosclerosis. The initiation and growth of atherosclerotic plaques is accompanied by recruitment of inflammatory and precursor cells from the bloodstream and their differentiation towards pro-inflammatory phenotypes. This process is orchestrated by the production of a number of pro-inflammatory cytokines and chemokines. Human arterial intima consists of structurally distinct leaflets, with a proteoglycan-rich layer lying immediately below the endothelial lining. Recent studies reveal the important role of stellate pericyte-like cells populating the proteoglycan-rich layer in the development of atherosclerosis. During the pathologic process, these cells may participate in the recruitment of inflammatory cells by producing signalling molecules and, possibly, participating in the antigen presentation. They are also involved in lipid accumulation and the formation of foam cells. The formation of atherosclerotic plaque is associated with proliferation of the resident intimal cells. In this review we discuss the participation of the resident cells of human aortic intima in the immune-inflammatory processes associated with atherosclerosis. This review

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29 Jul 2013 ... In this review, we will summarize current understandings and lines of evidence Several immune cell types such as T lymphocytes, B lymphocytes, and ... Atherosclerosis is a disease of the arteries characterized by plaque buildup play a role in inflammatory process and pathogenesis of asthma [145].

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life, in the coronary arteries in the second decade, and in the cerebral arteries in ... and immune cell and platelet recruitment and activation. (Hennig et al., 2001).

Atherosclerosis: Basic Mechanisms - Circulation

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