

The role of inflammation on atherosclerosis

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(Medical Xpress) -- European scientists dig into atherosclerotic plaque formation processes to investigate the part played by inflammation and vascular wall remodelling.

Cardiovascular diseases remain a serious health problem necessitating an understanding of the underlying mechanisms and the development of novel diagnostic, preventive and therapeutic strategies. Atherosclerosis is caused by a thickening of the capillary walls due to accumulation of lipids such as cholesterol.

Accumulating evidence indicates that inflammation plays a central role in atherosclerosis. To further delineate the causes of atherosclerosis, the EU-funded Atheroremo project has brought together scientists from an array of disciplines.

Project partners have identified some previously unknown [molecular mechanisms](#) involved in vascular inflammation. Their discovery of a novel role of the [oral bacteria](#) *Streptococcus mitis* in atherosclerosis demonstrates that infection can act as a potential initiator of disease. By dissecting the atherosclerotic plaque, researchers have noticed that expression of inflammatory interferons induces changes in the [smooth muscle cells](#) lining the arteries inducing vascular remodelling. A further intriguing discovery has been the involvement of anti-lipoprotein antibodies in atherosclerosis.

Additionally, the consortium has tested a number of novel treatments including montelukast – a compound used in asthma medication – to

prevent arterial wall remodelling. Various anti-inflammatory compounds are currently being tried as potential therapeutic strategies.

The Atheroremo project has also joined a large clinical analysis study of patient genetics to discover several new biomarkers for atherosclerosis risk. These novel predictive lipid molecules will form the basis for patient risk assessment.

Overall, the study results to date provide significant information on the inflammatory mechanisms governing atherosclerotic [plaque formation](#). This knowledge is expected to have serious implications in the diagnosis and therapy of atherosclerosis patients.

Provided by CORDIS

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