

Anti-atherosclerotic effect of microbial hyaluronate lyase from group B streptococci.

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Abstract

The effect of the microbial hyaluronic acid splitting enzyme hyaluronate lyase produced by *Streptococcus agalactiae* was investigated in vitro in human atherosclerotic plaque specimens and in vivo on Watanabe heritable hyperlipidaemic rabbits (WHHL) as an animal model for familial hypercholesterolaemia. The in vitro presence of the enzyme caused a partial destruction of the atherosclerotic plaque surfaces as well as releasing of glucuronic acid and solid calcium-containing materials from pieces of atherosclerotic plaques in human arteries. Accordingly hyaluronic acid seems to be the main component for anchoring of calcium deposits on the plaque surfaces. Repeated intravenous injections of hyaluronate lyase in WHHL rabbits resulted in a tendency of decreased formation of atherosclerotic plaques. The observed effects are discussed to be primary the result of the splitting of hyaluronic acid in the vessels.

Beteiligte Forschungseinheiten

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