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LUNG ALERT

Allergic disease may increase the risk of atherosclerosis

▲ Knoflach M, Kiechl S, Mayr A, *et al*. Allergic rhinitis, asthma, and atherosclerosis in the Bruneck and ARMY studies. *Arch Intern Med* 2005;**165**:2521–6

This paper describes two studies investigating the association between common allergic conditions (allergic rhinitis and asthma) and atherosclerotic disease.

In the Bruneck study of 826 middle aged and elderly Italian subjects, 32 (3.9%) had a diagnosis of allergic disease. The 5 year development and progression of atherosclerosis in the internal and common carotid arteries was investigated by ultrasonography. Subjects with allergic disorders were at a significantly increased risk for atherosclerosis development and progression (odds ratio 3.8, 95% CI 1.4 to 10.2, $p = 0.007$). Furthermore, IgE levels were significantly raised in subjects in whom atherosclerosis had developed or progressed (odds ratio 1.9, 95% CI 1.3 to 2.8, $p = 0.001$).

The Atherosclerosis Risk Factors in Male Youngsters (ARMY) study took 141 male Austrian subjects aged 17 and 18 years and compared the vascular intima-media thickness (IMT) of the 34 subjects (24.1%) diagnosed as having allergic disease with that of the healthy subjects. IMT was measured by ultrasonography in the internal and common carotid arteries, the carotid bulb, and the superficial femoral arteries. Subjects with allergic disorders were at significantly increased risk for high IMT (odds ratio 2.5, 95% CI 1.1 to 5.5, $p = 0.03$).

Both these studies show a significant correlation between allergic disease and atherosclerosis, suggesting that components of the allergic process such as leukotrienes and mast cells may be involved in atherogenesis.

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