

Largest-Ever Meta-Analysis Finds CRP Is Unlikely to Be Causal for CVD

In the largest and most comprehensive meta-analysis to date looking at C-reactive-protein (CRP) levels and risk of coronary heart disease (CHD) and stroke, British researchers conclude that CRP is unlikely to be a causal factor for cardiovascular disease [1].

Although CRP concentration was linearly associated with CHD, stroke, and vascular mortality, as well as nonvascular mortality, statistical adjustment for conventional cardiovascular risk factors resulted in considerable weakening of associations, as noted online December 21, 2009 in the *Lancet*.

The ERFC researchers say their meta-analysis differs from previous reports in several important ways. As well as being the largest and most comprehensive, the study excluded individuals with a history of CHD or stroke, thereby reducing any effects of clinically evident disease on CRP concentration. They were also able to use individual participant data, which "enabled a consistent approach to adjustment for potential confounders and exploration of subgroups. And they corrected for some other statistical variations, too. The individual records of 160 309 people were included from 54 long-term prospective studies, representing 1.31 million person-years at risk.

In an editorial accompanying the paper [2], authors commented that although the findings add weight to the evidence of noncausality for a role of CRP in the development of cardiovascular disease, the debate can be resolved only by randomized trials with agents that specifically target CRP, and such compounds are currently under development.

However, In this well-done" meta-analysis, the hazard ratio associated with CRP after adjustment for traditional risk factors is "actually larger than the hazard associated with non-HDL cholesterol or blood pressure. So these new data provide strong international confirmation that the impact of inflammation on heart disease is at least as important as that of other widely accepted risk markers.

References

- 1- The Emerging Risk Factors Collaboration. C-reactive protein concentration and risk of coronary heart disease, stroke and mortality: an individual participant meta-analysis. *Lancet* 2009; DOI:10.1016/S0140-6736(09)61717-7. Available at: <http://www.thelancet.com>.
- 2- Boekholdt SM and Kastelein JJP. C-reactive protein and cardiovascular risk: more fuel to the fire. . *Lancet* 2009; DOI:10.1016/S0140-6736(09)62098-5. Available at: <http://www.thelancet.com>