

## #ESC17: Anti-Inflammatory Therapy Lowers Future Cardiovascular Events



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A historic turning point in cardiology took place at this year's European Society of Cardiology Congress 2017 in Barcelona, as a host of seminal, practice-changing data was presented.

One major highlight included the landmark CANTOS (Canakinumab Anti-inflammatory Thrombosis Outcomes Study) study which showed that reducing inflammation, even in the absence of lipid lowering, significantly reduces recurrent cardiovascular events. The drug used to reduce inflammation was Canakinumab. The collection of this data could signal a shift in the core thinking about the treatment of atherosclerosis, as they provide evidence that inflammation has a causal role in cardiovascular diseases.

There were additional analyses which took place that examined whether anti-inflammatory therapy with canakinumab could change the occurrence of cancer. It was found that targeting the interleukin-1 $\beta$  innate immunity pathway significantly reduced cancer incidence and mortality, particularly for lung cancer.

Professor [Paul M. Ridker](#) (Brigham and Women's Hospital, Harvard Medical School, Boston, USA) presented the CANTOS results, which involved patients from 39 countries. He went on to explain how they conducted a randomised, double-blinded trial of canakinumab involving 10,061 patients with stable coronary artery disease after previous myocardial infarction and a high-sensitivity C-reactive protein (hsCRP) level of 2mg or more per litre. The trial compared three subcutaneous doses of canakinumab with placebo. The patients were around 60 years old, with the majority being on lipid lowering therapies and taking renin-angiotensin inhibitors.

Prof. Ridker went on to say that "Low grade Systemic inflammation precedes the onset of vascular events by many years. Plasma levels of inflammatory biomarkers, including hsCRP and interleukin-6 robustly predict first and recurrent cardiovascular events, independent of lipid levels.

"Statins are both lipid lowering and anti-inflammatory. The greatest benefits of statin therapy accrue to those in whom both LDL cholesterol and hsCRP are lowered."

He explained that in primary prevention, the JUPITER trial demonstrated that those with elevated hsCRP but low levels of LDL cholesterol markedly benefit from statin therapy. In secondary prevention, clinicians now distinguish between those with residual cholesterol risk and those with residual inflammatory risk.

"CANTOS was designed to directly test the inflammatory hypothesis of atherothrombosis and asked the question: Can inflammation reduction, in the absence of lipid lowering, reduce cardiovascular event rates?"

According to Prof. Ridker, the primary cardiovascular efficacy endpoint of the study was nonfatal myocardial infarction, nonfatal stroke, or cardiovascular death (MACE). In addition, the key secondary cardiovascular endpoint was MACE plus unstable angina requiring unplanned revascularisation (MACA PLUS). Critical non-cardiovascular safety endpoints included cancer and cancer mortality, infection and infection mortality.

The findings of this study were published in the New England Journal of Medicine. The study highlights how CANTOS supports the concept of

casual anti-inflammatory therapy in atherosclerosis. It indeed offers a perspective on tailored indication, treatment and monitoring of anti-inflammatory therapy in secondary prevention in high-risk patients.

Source: [ESC](#)

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