Implications Of The CANTOS Trial Showing That An Anti-Inflammatory Drug (Canakinumab) Reduces Strokes, MIs And Deaths without Changing LDL-C Levels

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Inflammation and Cardiovascular Disease

hs-CRP Value | Cardiovascular Disease Risk Level
---|---
< 1 mg/L | low risk
1-3 mg/L | average risk
> 3 mg/L | high risk

Recurrent Cardiovascular Events according to Dual Goals of LDL Reduction and hsCRP Reduction

Residual Risk Paradigm
Antinflammatory Therapy with Canakinumab for Atherosclerotic Disease

**Effects of Canakinumab**

**MACE**

- Placebo SC q 3 months
- Canakinumab 150/300 mg SC q 3 months

**Cumulative Incidence (%)**

- Follow-up Years

**Effects of Canakinumab**

- **HR 0.85**
- **95%CI 0.76-0.96**
- **P = 0.007**

**Cumulative Incidence**

- **0 1 2 3 4 5**
- **0.00 0.05 0.10 0.15 0.20 0.25**

**Confirmed MACE by 3 Month hsCRP**

<table>
<thead>
<tr>
<th>HR</th>
<th>(95% CI)</th>
<th>P</th>
</tr>
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<tbody>
<tr>
<td>1.0</td>
<td>(ref)</td>
<td>(ref)</td>
</tr>
<tr>
<td>0.95</td>
<td>(0.84,1.09)</td>
<td>0.48</td>
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<tr>
<td>0.75</td>
<td>(0.66,0.85)</td>
<td>&lt;0.0001</td>
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**No. at risk:**

- Placebo: 3182, 3014, 2853, 2525, 1215, 200
- Canakinumab:
  - hsCRP >= 2.0 mg/L: 2868, 2724, 2574, 2258, 1087, 195
  - hsCRP < 2.0 mg/L: 3484, 3353, 3214, 2890, 1411, 243

**Greater Risk Reduction with Greater hsCRP Reduction**

**Serious Adverse Events with Canakinumab**

**What About other Inflammatory Drugs?**

**FDA snubs Novartis bid to repurpose inflammation drug for heart attacks**

- *ZURICH (Reuters)* - The U.S. Food and Drug Administration has rejected Novartis’s bid to repurpose a drug now approved for the treatment of inflammatory diseases to be used in a group of heart attack survivors, the Swiss drugmaker said on Thursday.

**Ridker, et al. NEJM 2018**
Inflammation and Cardiovascular Disease

IS THE INFLAMMATION HYPOTHESIS VIABLE??

Future trials focusing on the role of anti-inflammatory agents on CV events will need to ensure that the right pathway(s) are selected as targets.

THANK YOU