

Omega-3 and blood-thinning drugs impact clotting process

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Researchers in Poland have discovered that combining omega-3 fatty acids with two blood-thinning drugs, aspirin and clopidogrel, changed the process of blood clotting, potentially helping reduce the risk of heart attacks in patients with stents in their heart arteries. The study's findings, which could lead to improved methods to protect patients, are published in the *Arteriosclerosis, Thrombosis, and Vascular Biology: Journal of the American Heart Association*.

Experts recognise how foods rich in omega-3, including salmon, play a key role in reducing the risk of [heart problems](#) in people with coronary artery disease. For the purposes of this study, the researchers from the Institute of Cardiology at Jagiellonian University Medical College in

Krakow, Poland, gave the pill form of omega-3 to subjects and encouraged them to eat more [oily fish](#).

'There are no other studies on omega-3 effects in patients who were already being treated with optimal medical therapy after stent placement,' explains lead author of the study Professor Grzegorz Gajos of Jagiellonian University Medical College. 'This was a proof of concept study. We were looking for any effect and what it might be.'

Called Omega-PCI (Percutaneous [Coronary Intervention](#)), the study was a double-blind, placebo-controlled trial that discovered the recipients of the omega-3 pills with aspirin and [clopidogrel](#) had blood clots that were at risk of being damaged compared with patients who received only blood-thinning drugs. The protein fibrin and the interlaced structure it forms in coagulated blood were of particular interest, according to the researchers.

Professor Gajos and his team assessed the findings of 54 subjects (41 men and 13 women, with an average age of 62.8 years) with stable coronary artery disease who underwent a catheter procedure to unclog their [heart arteries](#), and had a stent inserted to keep their vessels opened. In their study, the team placed 30 subjects in the treatment group and 24 in the control group before their heart procedures. The same daily doses of aspirin and clopidogrel were given to both groups for a four-week period after stenting. The treatment group got 1 000 milligrams of omega-3 each day, while the controls received a placebo daily.

Based on their findings, the treatment group produced less thrombin, what experts know to be a clotting factor, and they formed clots with an altered and favourable structure that facilitated their disruption. They found a 14.3 % shorter time of clot destruction in the treatment group compared with the controls. The team also found that the participants in the treatment group had less oxidative stress and showed no major

changes in fibrinogen, a protein generated by the liver, and clotting factor (II, XIII) levels.

'Our study suggests that combined moderate anti-thrombotic and anti-platelet actions of omega-3, when added to those of other treatments, may improve outcomes for [coronary artery disease](#) patients,' Professor Gajos says, adding that the researchers plan a follow-up study.

More information: Gajos, G., et al. (2011) *Arteriosclerosis, Thrombosis, and Vascular Biology: Journal of the American Heart Association*. [DOI: 10.1161/ATVBAHA.111.228593](https://doi.org/10.1161/ATVBAHA.111.228593)

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