魚油は術後心房細動減少に有効でない

OPERA：術前および術後の魚油補給は術後心房細動を減少させない

OPERA: Pre-operative and post-operative fish oil supplementation does not reduce postoperative atrial fibrillation

心臓手術を施行される患者において、術前および術後のn-3多価不飽和脂肪酸（魚油）補給は術後心房細動（AF）のリスクを軽減させなかったと、American Heart Association 2012年Late Breaking Clinical Trialで発表され、同時に*JAMA*オンライン版に掲載された。Omega-3 Fatty Acids for Prevention of Post-operative Atrial Fibrillation（OPERA）スタディは、心臓手術を予定された患者1,516人（平均年齢64歳、男性72.2%、心血管リスクファクターを有する）を対象とした無作為化プラセボコントロール多施設トライアルであった。患者は、魚油（1gカプセル中エチルエステルとしてn-3- PUFAを840mg以上含有）またはプラセボを、術前に導入としての10gを3～5日間（または8gを2日間）の後、術後に2g/日を退院までまたは術後10日まで投与された。一次エンドポイント（30秒以上持続する術後AFの発現）はプラセボ群の233人（30.7%）、およびn-3-PUFA群の227人（30.0%）に認めた。持続性、症候性、または治療を必要とした術後AFまたは患者あたりの術後AF発作数などの二次エンドポイントは、いずれも両群間で差がなかった。

Full Text

Among patients undergoing cardiac surgery, supplementation with a n-3-polyunsaturated fatty acid (fish oil) before and after surgery did not reduce the risk of postoperative atrial fibrillation, according to a study appearing in *JAMA*. The study is being released early online to coincide with its presentation at the American Heart Association's Scientific Sessions.

"Postoperative atrial fibrillation or flutter (AF) occurs in approximately 1 of 3 patients undergoing cardiac surgery, and rates of this complication remain unchanged, even with advances in surgical techniques, anesthetic procedures, and perioperative care," according to background information in the article. Postoperative AF can cause symptoms requiring escalation of supportive therapies and renal and neurological complications. The authors note that "new therapies are needed to prevent postoperative AF and its associated morbidity and health care costs."

"Experimental evidence supports direct and indirect antiarrhythmic effects of long-chain n-3 polyunsaturated fatty acids (n-3-PUFAs) in fish oil, especially in the setting of acute ischemia. Yet effects of n-3-PUFAs on atrial arrhythmias such as postoperative AF remain uncertain."

Dariush Mozaffarian, M.D., Dr.P.H., of the Harvard School of Public Health, Boston, and colleagues conducted a study to determine whether perioperative administration of oral n-3-PUFAs reduces postoperative AF in patients undergoing cardiac surgery. The study (Omega-3 Fatty Acids for Prevention of Post-operative Atrial Fibrillation [OPERA]) was a randomized, placebo-controlled, multinational, clinical trial that included a total of 1,516 patients who were scheduled for cardiac surgery in the United States, Italy, and Argentina. Patients were enrolled between August 2010 and June 2012 and were randomized to receive fish oil (1-gram capsules containing 840 mg or more of n-3- PUFA as ethyl esters) or placebo, with preoperative loading of 10 grams over 3 to 5 days (or 8 grams over 2 days) followed postoperatively by 2 grams/day until hospital discharge or postoperative day 10, whichever came first.

At the beginning of the study, the average age of the patients was 64 years; 1,094 patients (72.2 percent) were men, and cardiovascular risk factors were common. Fifty-two percent of patients had planned valvular surgery.

The researchers found that the primary end point (occurrence of postoperative AF lasting longer than 30 seconds) occurred in 233 patients (30.7 percent) in the placebo group and 227 (30.0 percent) in the n-3-PUFA group. "None of the secondary end points were significantly different between the placebo and fish oil groups, including postoperative AF that was sustained, symptomatic, or treated (231 [30.5 percent] vs. 224 [29.6 percent]) or number of postoperative AF episodes per patient (1 episode: 156 [20.6 percent] vs. 157 [20.7 percent]; 2 episodes: 59 [7.8 percent] vs. 49 [6.5 percent]; ≥3 episodes: 18 [2.4 percent] vs. 21 [2.8 percent])."

The total number of days in the intensive care unit or coronary care unit, of telemetry monitoring, or of total hospital stay did not differ significantly between groups. Also, supplementation with n-3-PUFAs was generally well-tolerated, with no evidence for increased risk of bleeding or serious adverse events.

"This large, multinational, double-blind, placebo-controlled clinical trial found no evidence that perioperative n-3-PUFA supplementation reduced postoperative AF. Results were similar for various secondary end points, among different patient subgroups, and in various sensitivity analyses. Major strengths of OPERA include its large size and large numbers of events, which achieved anticipated statistical power. Our broad inclusion criteria and multinational enrollment support the generalizability of our findings," the researchers conclude.

The OPERA trial was an investigator-initiated, not-for-profit trial sponsored by the OPERA Investigators, who had full responsibility for study planning and conduct, curation of the study database, and discretion on data utilization, analysis, and publication. Financial support was provided by the National Heart, Lung, and Blood Institute, National Institutes of Health, GlaxoSmithKline, Sigma Tau, and Pronova BioPharma, which also provided the study drug. All authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.