



Prevention

HIGHER PLASMA OMEGA 3 FATTY ACID LEVELS ARE ASSOCIATED WITH REDUCED RISK FOR BLEEDING AFTER CARDIAC SURGERY

Poster Contributions
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Background: Omega 3 fatty acids (n-3 FAs) are used for cardiovascular disease prevention. There have been theoretical concerns about n-3 FAs increasing the risk for bleeding, especially during surgery. The OPERA trial was a multi-center, double-blind, randomized trial that tested the effects of n-3 FA supplementation for 2-3 days pre-surgery on post-operative atrial fibrillation. In secondary analyses, the effects of n-3 FA supplementation on bleeding outcomes were evaluated

Methods: Of 1516 patients scheduled for cardiac surgery, data on n-3 FA levels on the morning of surgery was available for 552 patients-280 received n-3FAs and 272 received placebo. We investigated association between circulating plasma n-3 FA levels and 1) risk of postoperative bleeding, and 2) the number of units of blood transfused

Results: The sum of three long-chain n-3 FAs[docosahexaenoic acid (DHA), docosapentaenoic acid (DPA) and eicosapentaenoic acid (EPA)] in plasma phospholipids was 4.8% in placebo group and 6.4% in intervention group(p <0.0001). The table shows the risk for postoperative bleeding as a function of plasma n-3FA level quartiles. The number of blood units needed during surgery was analyzed on a continuous basis in a model adjusting for age, sex, BMI, and 4 bleeding-related drugs use. For 1-SD increase in the n-3 FA level, OR (95% CI) was 0.91 (0.88-0.95; p = 0.014)

Conclusion: Higher n-3FA levels were associated with a reduced risk of postoperative bleeding and need for blood transfusion in cardiac surgery

| Quartile | n-3 FA (DHA+DPA+EPA) (% of total plasma phospholipid FA) | Occurrence of postoperative bleeding/ number of cases | Odds ratio (95% confidence interval) |
|----------|--|---|--------------------------------------|
| 1 | 3.6 +/- 0.47 | 19/139 | 1 (reference) |
| 2 | 4.8 +/- 0.33 | 14/136 | 0.58 (0.26-1.3) |
| 3 | 6.0 +/- 0.33 | 8/138 | 0.30 (0.11-0.78) |
| 4 | 8.0 +/- 1.2 | 11/137 | 0.36 (0.15-0.87) |