Results: In the AVI model, EPA and DHA supplementation increased their respective blood levels by 272% and 62% (p < 0.0001). Plasma cholesterol and triglycerides were normal and did not differ between groups. Despite this, EPA significantly reduced carotid endothelial protein expression of VCAM-1 and MCP-1 compared to no treatment (see table). In the atherogenesis model, EPA and DHA increased their respective blood levels by 85% and 25% (p < 0.0001). Both EPA (-28%, p = 0.003) and DHA (-42%, p = 0.0001) reduced plasma triglycerides, and attenuated increases in cholesterol levels. However, this did not translate into favourable effects on plaque size, characteristics, or aortic lipid burden (see table).

Conclusion: The omega-3 fatty acid EPA reduces acute vascular inflammation; however, neither EPA nor DHA favourably alters atherogenesis, plaque characteristics, or lipid burden. The effects of omega-3s on atherosclerosis and clinical outcomes warrant clinical validation.

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Outcomes of Out-of-Hospital Cardiac Arrests Admitted to an Inner City Hospital

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We aimed to assess the causes and outcomes of all out-of-hospital cardiac arrest (OOHCA) cases that were admitted to an inner city tertiary hospital over a two-year period and compare the data to published literature.

All OOHCA presentations to our Emergency Department (ED) from 1 Jan 2014 to 1 Jan 2016 were included. Patients that did not achieve return of spontaneous circulation (ROSC) and died in ED were not analysed further. We excluded arrests due to non-cardiac causes such as asphyxiation, drug overdose, trauma or intra-cerebral haemorrhage.

Patients who presented to ED with OOHCA were 16 to 98 years old, and 138 (69.0%) were male. ROSC was achieved in 76 (38.0%) patients and of these 39 (19.5%) subsequently died in hospital. In all 37 patients (18.5%) survived to discharge: of these 22 (59.5%) were discharged home, 11 (29.7%) to a rehabilitation facility and 4 (10.8%) to another hospital. Of the 76 patients who achieved ROSC, 31 (40.8%) were still alive at one year; 15.5% of all OOHCA patients. Following discharge, 41,555 (19.9%) patients. Following discharge, 41,555 (19.9%) AMI hospitalisations resulted in death or readmission at 30-days post-discharge.

Results: We identified 209,029 hospitalisations (mean age 69.0 ± 14.2 years, 65.4% males) among 188,832 unique patients. Following discharge, 41,555 (19.9%) AMI hospitalisations resulted in death or readmission at 30 days. Both 30-day rates of mortality (2.1% in Australian Capital Territory to 3.2% in Victoria, p < 0.01) and readmission (15.1% in Queensland to 22.4% in Western Australia, p < 0.01) varied among regions. Overall, there were 265 hospitals with more than 25 hospitalisations (n = 192,458 hospitalisations) and the 30-day rate of death or readmission varied from 7.7% to 48.6% among these hospitals.

Conclusion: Nearly a quarter of patients discharged from hospital following an AMI in Australian and NZ are readmitted or die within the following 30 days. There is considerable variability in these outcomes between states and hospitals, which warrants further investigation.