Linoleic acid in adipose tissue and risk of ischemic stroke


Published in: European Heart Journal

Link to article, DOI: 10.1093/eurheartj/ehx501.P433

Publication date: 2018

Document Version: Publisher's PDF, also known as Version of record

Link back to DTU Orbit

ECMO-ASSISTED RESUSCITATION

341 | BEDSIDE

The Minnesota resuscitation consortium refractory VF early mobilization protocol. One year report

D. Yannopoulos, D. Benditt, K. Lurie, E. Caldwell. University of Minnesota, Cardiology, Minneapolis, United States of America

Background: In December of 2015, the Minnesota Resuscitation Consortium implemented a systems-based protocol of early mobilization to a tertiary academic hospital for patients presenting with out-of-hospital refractory shockable rhythms (VF/VT). We report the outcomes of 63 patients treated within the first year of the protocol.

Methods: Two major emergency medical services systems serving the Minneapolis-St. Paul metro area participated in the protocol. Inclusion criteria included age 18–75 years, body habitus accommodating automated LUCAS CPR, and estimated transfer time from the scene to the cardiac catheterization laboratory of <30 minutes. Exclusion criteria included known terminal illness, DNR/DNI status, traumatic arrest, and significant bleeding. Refractory VF/VT arrest was defined as failure to achieve sustained ROSC after treatment with 3 direct current (DC) shocks. Patients were transported to the University of Minnesota hospital where emergent advanced perfusion strategies (ECMO), followed by coronary angiography and PCI, were performed, when appropriate.

Results: Over the first 12 months of the protocol, 63 patients were transported directly to the cardiac catheterization laboratory. Of these, 50 patients met the protocol inclusion criteria and were treated. A favourable neurological outcome was achieved in 24/50 (48%) patients at discharge with 48% (24/50) achieving good neurologic function (CPC 1 and 2). Two patients developed significant lower extremity ischemia due to ECMO but had no chronic complications.

Conclusions: A systems-based approach for the management of OHCA refractory VF/VT protocol with early mobilization to an ECMO/PCI capable hospital is feasible in a large US metropolitan area and leads to a high functionally favorable outcome with early mobilization to an ECMO/PCI capable hospital.

342 | BEDSIDE

Duration for attaining favourable neurological outcome in refractory out-of-hospital cardiac arrest patients who were resuscitated with veno-arterial extracorporeal membrane oxygenation

T. Otani, R. Matsuoka, M. Morita, T. Natsukawa, H. Sawano, Y. Hayashi. Osaka Saiseikai Senri Hospital, Senri Critical Care Medical Centre, Osaka, Japan

Introduction: Cardiopulmonary resuscitation (CPR) with veno-arterial extracorporeal membrane oxygenation (VA-ECMO) is useful for refractory out-of-hospital cardiac arrests (OHCA) patients who were resuscitated with VA-ECMO. Over the first 12 months of the protocol, 63 patients were transported directly to the cardiac catheterization laboratory. Of these, 50 patients met the protocol inclusion criteria and were treated. A favourable neurological outcome was achieved in 24/50 (48%) patients at discharge with 48% (24/50) achieving good neurologic function (CPC 1 and 2). Two patients developed significant lower extremity ischemia due to ECMO but had no chronic complications.

Conclusions: A systems-based approach for the management of OHCA refractory VF/VT protocol with early mobilization to an ECMO/PCI capable hospital is feasible in a large US metropolitan area and leads to a high functionally favorable outcome with early mobilization to an ECMO/PCI capable hospital.

343 | BEDSIDE

Higher survival rates in exercise-related out-of-hospital cardiac arrests, compared to non-exercise-related cardiac arrests - a study from the Swedish Register of Cardiopulmonary Resuscitation

M. Frisk Tore1, A. Strosmore2, E. Zagerholm3, J. Herlitz4, A. Claesson5, L. Svensson5, M. Borjesson5. 1Kungälv Hospital, Medicine, Kungälv, Sweden; 2Dalarna University, Falun, Sweden; 3 Sahlgrenska Academy, Gothenburg, Sweden; 4 University of Boras, Boras, Sweden; 5 Karolinska Institute, Stockholm, Sweden

Background: Despite the positive effects of regular physical activity, the risk of a sudden cardiac arrest (SCA) is transiently increased during and immediately after exercise. The total incidence of exercise-related out-of-hospital cardiac arrests (OHCA) is however scarcely studied, and neither are prognosis and characteristics of these events. One of the limiting factors for previous studies has been the lack of comprehensive registries, to be able to detect the true incidence in the whole population cohorts.

Purpose: To assess the incidence of exercise-related OHCA in the general population of all ages and to compare characteristics and prognosis of these cardiac arrests with non-exercise-related OHCA.

Methods: All cases of OHCA outside of home reported to the Swedish Register of Cardiopulmonary Resuscitation from 2011 to 2015 in three counties of Sweden were included (population 2.1 million). This registry captures almost 100% of all OHCA in Sweden. Information on OCHAs regarding survival, treatment and diagnosis was obtained from the registry. Additional data variables were extracted from EMS medical records and hospital medical records by a computer software.

Results: A total number of 1825 cases of OHCA outside of home where resuscitation was attempted occurred in the three counties during the study period. Of these 1825, 157 (7.5%) were exercise-related, resulting in an incidence of 1.2 per 100,000 person-years. The 30-day survival rate was significantly higher among exercise-related OHCA compared to non-exercise-related OHCA (54.3% vs 19.4%, p < 0.0001). Patients suffering an exercise-related OHCA were on average 10 years younger than those who had a non-exercise related OHCA, 56.4 years compared to 67.2 years. Exercise-related OHCA were more often witnessed (89.4% vs 78.6%, p < 0.002), had higher rates of bystander CPR (80.3% vs 61.0%, p < 0.0001) and patients in this group were more frequently connected to an AED before arrival of EMS (20.4% vs 4.6%, p < 0.0001) compared to cases of non-exercise-related OCHAs. The sports activities most commonly associated with exercise-related OHCA were cycling (20%), gym workout/group training (11%) and golf (9%).

Discussion: The incidence of exercise-related OHCA in the general population is 1.2 per 100,000 person-years. Cardiac arrests that occur in relation to exercise have a significantly better prognosis and outcome than non-exercise-related cardiac arrests. This may be explained by favorable circumstances such as higher degree of bystander CPR but may also reflect that these persons experience an SCA at a lower degree of coronary artery disease, due to their younger age and to exercise as a trigger.
There may be a dose threshold for radiotherapy-induced carotid wall damage. Higher in the irradiated carotid arteries, but only at doses... 

Conclusions: In this large number of Hodgkin Lymphoma survivors, carotid IMT, compared to unirradiated carotid artery and the difference reached statistical significance in patients that received high radiotherapy dose (0.97±0.35 vs 0.92±0.34 p<0.05). Cf-PWV was significantly greater only in patients that received high dose (>42 Gy), as compared to all the other dose groups (9.7±2.3 vs 8.3±1.2, 8.0±1.5 and 8.1±3.4, p<0.05).

Conclusions: In this large number of Hodgkin Lymphoma survivors, carotid IMT, plaque prevalence and aortic and carotid stiffness were significantly related with radiotherapy doses. Carotid IMT, carotid and aortic stiffness were significantly higher in the irradiated carotid arteries, but only at doses >42 Gy, suggesting that there may be a dose threshold for radiotherapy-induced carotid wall damage.

Conclusions: The risk of ischemic stroke was negatively associated with the content of LA in adipose tissue suggesting a protective effect of LA against ischemic events. The risk of ischemic stroke was negatively associated with the content of LA in adipose tissue suggesting a protective effect of LA against ischemic events.

Conclusions: Asymptomatic patients with severe stenosis may be at high clinical risk too for complicated plaques may occur at any time, irrespective of symptoms.

Conclusions: Asymptomatic patients with severe stenosis may be at high clinical risk too for complicated plaques may occur at any time, irrespective of symptoms.

Conclusions: Asymptomatic patients with severe stenosis may be at high clinical risk too for complicated plaques may occur at any time, irrespective of symptoms.

Conclusions: Asymptomatic patients with severe stenosis may be at high clinical risk too for complicated plaques may occur at any time, irrespective of symptoms.

Conclusions: Asymptomatic patients with severe stenosis may be at high clinical risk too for complicated plaques may occur at any time, irrespective of symptoms.