P17  Pro-arrhythmic actions of dietary saturated fat are independent from changes in myocardial membrane fatty acids
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Background – Whilst in most cases changes in diet and lifestyle can account for the sharp increase in morbidity and mortality from cardiovascular disease (CVD) in many Asian countries, the relatively high incidence of CVD in Sri Lanka cannot be fully explained by traditional plasma lipid markers or by an excessive total fat intake. Nevertheless, an excessive intake of saturated fat derived primarily from coconut (oil/milk/flesh), and a low consumption of polyunsaturated fatty acids (PUFA) coupled with a background diet rich in highly digestible carbohydrates may promote vascular endothelial dysfunction leading to the development of CVD.

Objective – To evaluate the effect of dietary saturated fats on the vulnerability to cardiac arrhythmia in the rat.

Design – Twelve weeks old rats were fed ad libitum the standard AIN-97 diets containing different dietary fats. The control diet contained 5% (w/w) fat from canola oil and the test diets were made by replacing canola oil with either lard, or a mixture of coconut oil (CO; 4.5% w/w) and sunflower oil (0.5%w/w). After a 3 month pre-feeding period, myocardial ischaemia was induced by temporary occlusion of the left anterior descending coronary artery. Parameters of cardiac arrhythmia including % incidence and duration of ventricular tachycardia (VT), ventricular fibrillation (VF) and arrhythmia score (AS) were calculated.

Outcomes – Compared to the control group, CO and lard diets resulted in significant increase in the duration (sec) of VT (1.9±0.8 control; 38.8±13.4 lard; 31.0±10.1 CO, P<0.01). VF was absent in the control group, compared to 58% (lard) and 91% in the CO group. The duration of VF and the % mortality from VF was also higher in the CO fed rats. The PUFA profile of myocardial phospholipids was unchanged by the dietary manipulation.

Conclusions – CO appears to have direct pro-arrhythmic actions in the rat model of cardiac arrhythmia and sudden cardiac death. Some of these actions may be elicited at the vascular endothelium level. Therefore, strategies directed at promoting vascular integrity and function may afford protection in such situations.


P18  A systematic literature review of food security in the Aboriginal and Torres Strait Islander populations in Australia
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Background – Ready access to a safe and affordable food was identified as an important element for food security at the 1996 World Food Summit in Rome (1). In 1994, 30% of Indigenous adults worried at least occasionally about going without food (2). The health status of Indigenous people remains the worst of any subgroup within the population, with little evidence of significant improvement over the past two decades (3). The causes of health disadvantage are complex, however, improved diet, access to food and health care play a role in improving health3.

Objectives – Examine the literature for evidence of food security in the Indigenous population and examine the amount and type of materials published over the last 20 years.

Design - Biomedical databases were interrogated to determine the amount and type of materials published over the last two decades. Other resources, including departmental reports, were also examined.

Outcomes – Of the materials collected, 84% were published in the second decade. Most of those published in the first decade were descriptive and focused on Indigenous health, nutrition, diet and factors affecting food access. During the second decade, the focus was more on the development of policy and intervention programs. Most related to the Northern Territory.

Conclusion – Lack of food security in many communities is a major concern contributing to poor health status in Indigenous communities. Over the last decade this issue has received more attention in the literature. Policies have been developed to address food insecurity in some jurisdictions; however few report implementation of these policies. Little work, if any, was reported levels of food insecurity in the urban environment nor interventions undertaken to address it.

References