

Debate on effects of LA-rich diet stalls

by Dr. Diane H. Morris

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A great debate at the ISSFAL 2006 Conference in Cairns, Australia on the topic, "Are diets rich in linoleic acid (LA) bad for your health?" ended in a tie. Moderator Dr. Dave Roberts confessed to feeling lucky when the final vote was cast – as many attendees clapped in favour of the women's arguments as clapped in support of the men's. The good-natured arguing about semantics and the quality of evidence on one side or the other yielded to the admission by nearly everyone that studying the adverse effects of LA in humans is very difficult and there is no agreement on what constitutes a "high" LA diet.

The two debating teams differed not by area of research expertise, professional affiliation or even opinion on the topic. They differed by gender! The women [Drs. Kerin O'Dea (Australia), Susan Carlson (USA) and Lotte Lauritzen (Denmark)] argued that Yes, diets rich in linoleic acid (LA) are bad for you, while the men [Drs. Les Cleland (Australia), Stephen Cunnane (Canada) and Bert Koletzko (Germany)] argued, No, high-LA diets are not bad for you.

The team arguing that high-LA diets are bad supported their position by citing evidence from the Lyon Diet Heart Study and estimates of fatty acid intakes by Paleolithic peoples. High-LA diets increase atherogenesis by enhancing the formation of LDL particles that are small and more atherogenic, and such diets decrease the formation of the long-chain omega-3 polyunsaturated fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). The current dietary imbalance in omega-3 versus omega-6 fatty acid intakes was not evident in human populations living 10,000 to 15,000 years ago, when Paleolithic hunters and gatherers consumed diets in which the omega-6 and the omega-3 fat content was balanced at close to 1 to 1. Furthermore, the team argued that the developing fetus is protected against LA. That is, although breast milk is rich in LA, the placenta prevents the transfer of large quantities of LA to the fetus.

The team arguing that high-LA diets are not bad – and may, in fact, be good – looked to data from Mexico to support their position: Mexico has a corn-based diet rich in LA, but it also has a low incidence of cardiovascular disease. Furthermore, according to this team, there is no consistent evidence showing that LA contributes to cancer or obesity, that LA is the main contributor to lipid peroxidation in tissues, or that high-LA diets increase tissue levels of arachidonic acid adversely. In fact, LA might well be the "fall guy" for the poor diets and lifestyles found in many Western countries. In the end, the team reminded their opponents and the audience that in the developing world, increases in the LA content of local diets could only be a good thing.