

Concurrent Session 8

The effect of CLA on body composition in humans: systematic review and meta-analysisM Voevodin¹, A Sinclair¹, R Gibson², M Makrides³¹RMIT University, Department Food Science, Melbourne VIC 3000; ²Child Nutrition Research Centre, Flinders Medical Centre, Adelaide SA 5000; ³Child Health Research Institute, 72 King William Road, North Adelaide SA 5006

Background - It is suggested conjugated linoleic acid (CLA) can alter body composition in humans in favour of improved cardiovascular health.

Objective - To evaluate the efficacy of CLA on altering body composition in humans by reviewing all available randomised controlled trials. Body composition measures were body weight, body fat mass (BFM) and lean body mass (LBM).

Design - Eligible trials were identified from a search of electronic databases MEDLINE, EMBASE, CENTRAL, CINAHL, citation index (Web of Science) and the Australian and International dissertation libraries. No language restrictions were applied. Date of last search: July 2005. Study quality was assessed based on concealment allocation, use of a placebo/control, blinding, and attrition rate.

Outcome - Thirteen trials met inclusion criteria. In general, trials had low sample size, short intervention period and were considered of medium to low quality. No trials reported a significant reduction in body weight with CLA. Three of eleven trials reported a significant reduction in BFM with CLA. Four trials measured LBM but none reported a reduction with CLA. Pooled data, calculated according to a fixed effects model, showed CLA reduced weight (WMD: -0.67kg, 95% CI: -0.97, -0.38, $P < 0.001$, $n=504$, from 8 trials), reduced body fat mass (WMD: -1.13kg, 95% CI: -1.50, -0.76, $P < 0.001$, $n=372$, from 5 trials), but had no effect on lean body mass (WMD: 0.12kg, 95% CI: -0.14, 0.39, $P = 0.36$, $n=454$, from 7 trials).

Conclusion - CLA had a small effect in reducing body weight (0.67kg) and body fat mass (1.13kg) in humans. However, the design and methods of the thirteen trials differed considerably. Therefore, this result should be interpreted with caution, and may not be clinically relevant. We suggest long-term trials of high quality are needed to adequately determine the effectiveness, and safety, of CLA on body composition in humans.

Anti-inflammatory activity of lipid-rich extract in Chinese musselsD Li¹, T Yao²¹Dept of Food Science and Nutrition, Zhejiang University, China; ²Dept of Food Science, Gongshang University, China

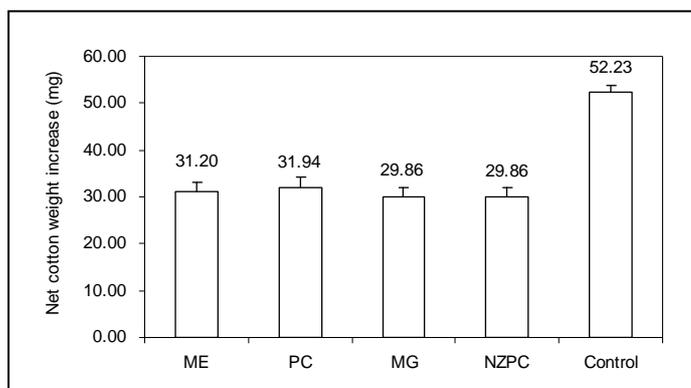
Background - Lyprinol, a lipid-rich extract of New Zealand green-lipped mussel has shown an anti-inflammatory activity.¹ However, there are no data on whether Chinese mussel extracts have anti-inflammatory activity.

Objective - The aim of this study was to investigate the anti-inflammatory activity in Chinese mussels.

Design - Chinese blue mussel (*Mytilus edulis*, ME), green mussel (*Perna canaliculus*, PC) and black mussel (*Mytilus galloprovincialis*, MG) were collected in May 2004, by the Department of Science and Technology, Shensi County, Zhejiang, China. The lipids were extracted by chloroform-methanol (2:1, v/v) containing 10mg/L of butylated-hydroxytoluene (BHT). The anti-inflammatory activities of the lipid-rich extracts of Chinese Mussels were assayed by the infiltration method² and compared to Lyprinol (NZPC) and a control (vegetable oil), in Sprague-Dawley rats.

Outcomes - The figure shows the result of anti-inflammatory activity of lipid-rich extracts of the different mussels.

Conclusions - Present result showed that Chinese blue, inflammatory activity as potent as Lyprinol in this assay. green and black mussel extracts have similar anti-

**References**

- Halpern GM. Anti-inflammatory effects of a stabilized lipid extract of *Perna canaliculus* (Lyprinol). *Allerg Immunol (Paris)* 2000; 32: 272-8.
- Freeman PC, Mangan FR, Watkins DK. A study of the effects of nabumetone (BRL 14777), a novel anti-inflammatory drug, on cell infiltration into sterile cotton pellets implanted in rats. *J Pharm Pharmacol.* 1982; 34: 580-3