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July 15, 2014

Dr. Chu-Huang Chen
Texas Heart Institute
6770 Bertner Ave. MC-2-255,
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United States

Re: WFAS Houston 2014 Abstract Presentation

Dear Dr. Chu-Huang Chen,

Congratulations! We are pleased to inform you that your abstract "Sesamol reduces LDL electronegativity in Syrian hamsters and blocks atherogenic L5 signaling through LOX-1" has been accepted for oral presentation.

Note:

- Oral presentations will be given 15 minutes with an additional 2 minutes for questions and answers discussion. Presenters will be notified of their presentation schedule by July 25, 2014. Finalized powerpoints for oral presentation must be submitted by Sept 25, 2014.
- Poster presentations will be displayed in a dedicated section of the conference area. Individual poster sizes must not exceed 90cm in width and 120 cm in height. Presenters are responsible to display and take down poster board, instructions to follow.

Please email wfas2014_abstract@acaom.edu should you have any questions.
We look forward greeting you in Houston.

Sincerely,

WFAS Houston 2014
Academic and Organizing Committee

Sesamol reduces LDL electronegativity in Syrian hamsters and blocks atherogenic L5 signaling through LOX-1

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Abstract

Aims: The most electronegative type of LDL, called L5, induces endothelial cell (EC) apoptosis and has been implicated in the initiation and progression of atherosclerosis and cardiovascular disease. The aim of this study was to examine whether sesamol, a natural organic compound and component of sesame oil, prevents EC apoptosis induced by L5 and to investigate the underlying mechanisms.

Methods and Results: Syrian hamsters, which have a low-density lipoprotein (LDL) profile similar to humans, were fed a normal chow diet (control), a high-fat diet (HFD), or a HFD supplemented with 50 or 100 mg/kg sesamol (HFD+sesamol) for 16 weeks (n=8 per group). Agarose gel electrophoresis of total LDL and anion-exchange purification of L5 by using fast protein liquid chromatography showed that the HFD group had more electronegative LDL and higher plasma L5 levels than did the control group. However, compared with the HFD group, the HFD+sesamol groups had reduced LDL electronegativity and plasma L5 levels that were dependent on the dose of sesamol. Oil Red O staining showed that atherosclerotic lesion size was markedly increased in the aortic arch of the HFD group but not in that of the HFD+sesamol groups when compared with the control group. Apoptosis studies in human aortic ECs showed that sesamol (0.3-3 μM) blocked L5-induced apoptosis in a dose-dependent manner. Furthermore, sesamol markedly inhibited an L5-induced pro-apoptotic signaling pathway via the lectin-like oxidized LDL receptor-1 (LOX-1).

Conclusion: Our findings suggest that sesamol is anti-atherogenic and may protect against the development of cardiovascular disease in humans.