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Comparative effects of emu and olive oil on aortic early atherosclerosis and associated risk factors in hypercholesterolemic hamsters

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Abstract

The comparative cholesterol lowering and anti atherosclerotic properties of emu oil and olive oil were evaluated in four groups ($n = 8$) of hamsters fed a non-purified diet containing either 10% coconut oil crude and refined, emu oil, and olive oil and 0.05% cholesterol (wt/wt) for 8 weeks. Hamsters fed the olive and emu oil diets had significantly lower concentrations of plasma total cholesterol (-31%, and -25%; $P < 0.05$, respectively) and low-density lipoprotein cholesterol (LDL-C) (-50%, and -41%; $P < 0.05$, respectively) compared to the coconut oil-fed hamsters, with no significant differences in plasma high-density lipoprotein cholesterol (HDL-C) or triacylglycerol (TAG) concentrations. Compared to the coconut oil fed animals, hamsters fed the emu oil and olive oil-containing diets had reduced aortic cholesterol ester concentrations (-20% and -60%, respectively). The present study suggests that compared to a diet containing coconut oil, both emu oil and olive oil are capable of reducing aortic early atherosclerosis in hypercholesterolemic hamsters.

Author Keywords: Emu oil; Olive oil; Plasma lipoprotein cholesterol; Aortic cholesterol