

Antiatherogenic potential of *Cornus mas* L. on inflammatory risk factors, lipid profile and apolipoproteins in dyslipidemic children

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Background and Aims: Food-based medicinal plant reduces heart diseases risk. *Cornus mas* L. (CM) contains anthocyanins and has anti-inflammatory and anti-oxidant activities. This randomized clinical trial evaluates the CM effect on inflammatory risk factors, lipid profile and apolipoproteins in dyslipidemic children.

Methods: 40 dyslipidemic children between the ages of 9-16 years were chosen. Subjects were randomly divided into two groups of 20 patients each; control and case groups. Each subject in case group was asked to consume 50 g of CM twice a day after the lunch and dinner. Venous blood was collected to measure factors after an overnight fast at baseline and after the 3 and 6 wk of the treatment.

Results: A significant time×group interaction ($p<0.05$) for TC (total cholesterol), TG (triglyceride) and apo A (apolipoprotein A) and non-significant time×group interaction for other factors obtained between groups. Dietary supplementation with CM, produced significant reduction in TC and TG levels and significant elevation HDL (high-density lipoprotein), apo A, HDL/TC and HDL/LDL (low-density lipoprotein) ratio in 6 wk in comparison with baseline and 3 wk ($p<0.05$). Although for TC in 3 wk with baseline achieved significantly reduction. Using CM significantly enhanced LDL in 3 and 6 wk as compared to baseline ($p<0.05$). Decrease of vascular cell adhesion molecule, intercellular adhesion molecule and apo B were significant between baseline and 6 wk for feeding children with CM ($p<0.05$). There was no significant difference in body mass index, waist to hip ratio and C-reactive protein between baseline, 3 and 6 wk of case group.

Conclusions: Dietary supplementation with CM could lead to favorable efficiency on inflammatory risk factors, lipid profile and apolipoproteins in dyslipidemic children in short-time and had high potency for preventing cardiovascular diseases in their future therefore it is suggested using this plant with diets simultaneously.

Keywords: Children; *Cornus mas* L; Dyslipidemia