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The effects of *Aronia melanocarpa* extracts on serum lipids and connective tissues collagen in ovariectomized rats

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The effects of *Aronia melanocarpa* hot water (AMH) extract on serum lipid level and bone formation in ovariectomized rats were observed as a part of this study. 24, five-week old female Sprague-Dawley rats were randomly assigned to four groups: sham-operated rats (SHAM), ovariectomized control rats (OVX-CON), and ovariectomized rats supplemented with AMH extract at 50 mg/kg bw (OVX-AMH50) or 200 mg/kg bw (OVX-AMH200). Three OVX groups were surgically ovariectomized while the SHAM group was sham-operated. AMH extract was orally administrated at 1 mL per day. The final body weight of the OVX-control group was increased compared with the Sham group, but decreased by the administration of AMH. Analysis of serum lipid contents found that the total cholesterol, triglyceride, and low density lipoprotein cholesterol levels in the OVX-CON group were higher than those in the SHAM group. Notably, upon administration of AMH extract after ovariectomy, triglyceride levels tended to significantly decrease. In addition, serum alkaline phosphatase activity, an indicator of bone formation, improved in the AMH extract group compared to the OVX-CON group. Collagen contents in bone and cartilage were reduced by ovariectomy, whereas, the AMH extract-supplemented groups exhibited higher concentrations in bone. According to these results, AMH extract improved serum lipid parameters and osteogenesis in ovariectomized rats. Therefore, AMH may help to improve the lipid metabolic syndrome and osteogenesis of menopausal women.

Biography

Jeonghyeon Kang completed her PhD from Ochanomizu University (Tokyo, Japan) and is Professor in the Department of Food and Nutrition Of Silla University in South Korea. She is interested in natural materials such as seaweeds and land plants. She is currently conducting research on the prevention of menopause through animal and cell biological experiments.

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