

P55

The Effect of Mulberry Ethanol Extracts on Collagen Synthesis in Ovariectomized Rats.

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Estrogen is known to play an important role in maintaining bone mass, since the concentration of serum estrogen decrease after menopause and the estrogen deficiency results in bone loss. Phytoestrogens are plant compounds with estrogen-like biological activity. We investigated the ability of Mulberry extracts to prevent bone loss in ovariectomized rats, a model for postmenopausal osteoporosis. The change of collagen content was studied in bone, cartilage, skin and lung of ovariectomized rats. Sprague-Dawley female rat were randomly assigned to the following groups: sham-operated rats (sham), ovariectomized control rats (OVX-control), ovariectomized rats supplemented with 80% ethyl alcohol extracts of kinds of Tajikistan mulberry (OVX-TM), Korea mulberry (OVX-KM) and China mulberry (OVX-CM) at 200mg/kg bw/day, respectively. The mulberry extracts were orally administered at 1mL per day. The effects of extract of Mulberry on the amount of collagen were examined by measuring hydroxyproline, which is a specific amino acid existing in collagen. In the ovariectomized rats supplemented with Mulberry ethanol extracts, the amount of collagen more increased than those of OVX-control in bone, cartilage, skin and lung.