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**The effects of strontium ranelate treatment on ovariectomized Sprague-Dawley
rat tibia**

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abstract

Micro Proton Induced X-ray Emission (micro-PIXE) technique was used to study the effect of strontium ranelate on osteoporosis resulted from estrogen deficiency. The contents of calcium and strontium in tibia, as well as calcium distribution for structural determination were investigated. Three groups of tibia samples were respectively taken from three groups of female Sprague-Dawley (S.D.) rats, i.e. control, ovariectomized and ovariectomized followed strontium ranelate treatment. It was found that the strontium content was decreasing in the bone from ovariectomized rat compared with that in control, but significantly increasing in the bone from strontium ranelate treated ovariectomized rat. Our study showed that strontium content is a feasible parameter for the diagnosis of osteoporosis caused by estrogen deficiency. Strontium ranelate is an effective antiosteoporosis chemical to rebuild the bone structure and prevent deterioration of bone strength as well.

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