

论著

黄芪配伍熟地对去势大鼠骨质疏松的治疗作用

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摘要 目的 观察黄芪配伍熟地对去势大鼠骨密度及骨质病理改变的影响。方法 采用切除雌性未孕大鼠两侧卵巢的方法制备去势大鼠骨质疏松模型。模型大鼠按照分组分别ig给予黄芪 $5.4 \text{ g} \cdot \text{kg}^{-1}$, 熟地 $5.4 \text{ g} \cdot \text{kg}^{-1}$, 黄芪+熟地(含黄芪 $2.7 \text{ g} \cdot \text{kg}^{-1}$ 和熟地 $2.7 \text{ g} \cdot \text{kg}^{-1}$), 雌激素 $0.18 \text{ mg} \cdot \text{kg}^{-1}$, 每2周1次连续给药16周。制作骨骼切片, 检测去势大鼠骨密度及骨质病理的改变。结果 与假手术组比较, 模型组的体质量显著增加, 股骨质量($1.05 \pm 0.11 \text{ g}$)明显降低, 骨量丧失较为明显($P < 0.05$)。与模型组比较, 黄芪组($373 \pm 63 \text{ g}$)、熟地组($370 \pm 46 \text{ g}$)及黄芪+熟地组的体质量($370 \pm 60 \text{ g}$)均明显增加($P < 0.05$), 但股骨量无显著变化; 黄芪+熟地组的股骨密度($0.1470 \pm 0.0373 \text{ g} \cdot \text{cm}^{-1}$)和椎骨骨密度($0.1350 \pm 0.0402 \text{ g} \cdot \text{cm}^{-1}$)均明显增加($P < 0.05$), 骨皮质厚度($0.852 \pm 0.151 \text{ g} \cdot \text{cm}^{-1}$)及骨小梁直径($0.073 \pm 0.015 \text{ g} \cdot \text{cm}^{-1}$)显著性增加($P < 0.05$)。结论 黄芪配伍熟地能够增加骨密度、促进骨形成, 使骨结构得到改善, 对去卵巢大鼠骨质疏松具有一定的治疗作用。

关键词 黄芪 熟地 绝经后骨质疏松 骨密度

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Effect of Radix Astragali combined with prepared Radix Rehmanniae root on osteoporosis in ovariectomized rats

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Abstract

OBJECTIVE To observe the effect of Radix Astragali combined with prepared Radix Rehmannia root on bone density and pathologic changes of ovariectomized rats. **METHODS** The osteoporosis model was made by cut off the bilateral ovaries of nonfertile rats. According to the group, ovariectomized rats were respectively intragastrically administered Radix Astragali ($5.4 \text{ g} \cdot \text{kg}^{-1}$), prepared rehmannia root ($5.4 \text{ g} \cdot \text{kg}^{-1}$), Radix Astragali combined with prepared rehmannia root (each $2.7 \text{ g} \cdot \text{kg}^{-1}$), and nilestriol($0.18 \text{ mg} \cdot \text{kg}^{-1}$). 16 weeks later, rats were killed and bone slices were made. Measure bone density and pathologic changes of the 2nd lumbar vertebra observed. **RESULTS** In comparison with sham-operated group, The ovariectomized group gained in body mass obviously, but reducing the mass of thigh-bone ($1.05 \pm 0.11 \text{ g}$) evidently and cutting down the bone mass distinctly($P < 0.05$). Compared with ovariectomized control group, body mass in Radix Astragali group($373 \pm 63 \text{ g}$), prepared rehmannia root group ($370 \pm 46 \text{ g}$), Radix Astragali combined with prepared rehmannia root group ($370 \pm 60 \text{ g}$) increased obviously($P < 0.05$), but the mass of thigh-bone was without significant change ($P > 0.05$). And Radix Astragali combined with prepared rehmannia root group could obviously increase the bone density of thigh-bone ($0.147 \pm 0.037 \text{ g} \cdot \text{cm}^{-1}$) and vertebra ($0.135 \pm 0.040 \text{ g} \cdot \text{cm}^{-1}$)($P < 0.05$). And it also can broaden the thickness of the bony cortex ($0.852 \pm 0.151 \text{ g} \cdot \text{cm}^{-1}$) and the diameter of bone trabecula ($0.073 \pm 0.015 \text{ g} \cdot \text{cm}^{-1}$). **CONCLUSION** Prepared rehmannia root could increase the bone density, promote bone formation and improve bone quality. And it has therapeutic effects on ovariectomized rats with osteoporosis.

Key words Radix Astragali prepared Radix Rehmannia root postmenopausal osteoporosis bone density

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