Effect of sophoricoside on histomorphology of bone in ovariectomized rats

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[ABSTRACT] Objective To evaluate the potential preventive effect of sophoricoside on bone loss in ovariectomized rats.

Methods Female SD rats (n = 50, 6 months old) were either sham-operated (SHAM group, n = 10) or ovariectomized (n = 40). Three days after operation, ovariectomized rats were randomly assigned to groups as follows: 10 received sophoricoside 4 mg·kg⁻¹·d⁻¹ (SM group), 10 received sophoricoside 8 mg·kg⁻¹·d⁻¹ (SH group) and 10 were untreated (OVX group). After sophoricoside were given orally for one month, the histomorphometric parameters in the secondary spongosia of proximal tibia and lumbar vertebrae were examined.

Results Compared with OVX group, SM and SH two kinds of treatment caused 15.28% and 22.81% increase in percent trabecular area (BV TV, %) in the secondary spongiosa of proximal tibia, 14.23% and 21.2% increase in lumbar vertebrae. Accordingly in these two groups, there was a significant decrease in trabecular separation (FLAW, μm), but increase in trabecular width (Tb.Th, μm) and conjunction points (JOINT). But in SL group, the preventive effect was not observed.

Conclusion Sophoricoside can be efficient in preventing ovariectomy-induced bone loss in rats.

[KEY WORDS] sophoricoside; osteoporosis; ovariectomized rats; bone histomorphometry
1. 取下腹部切口

2. 测定各组的平均骨小梁宽度和平均骨小梁间距。

3. 与SHAM组比较，高剂量组显示无明显预防作用。

4. 见表1、表2。
2.3

<table>
<thead>
<tr>
<th>SHAM</th>
<th>O VX</th>
<th>SL</th>
<th>SM</th>
<th>SH</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.15±1.12</td>
<td>11.59±2.26</td>
<td>8.07±1.90</td>
<td>8.03±1.45</td>
<td>8.08±2.31</td>
</tr>
</tbody>
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(\(n=7, x \pm s.g\))

\(P<0.05\)

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