



## Bioidentical Hormone Abstracts for Women - Estriol

Women's International Pharmacy compiled abstracts of the most up to date scientific literature on biologically identical hormones for female hormonal health concerns. To obtain the full-text of any of the abstracts listed, please refer to your local medical library or online source.

**Maturitas. 1997; 28 (1): 11-17.**

### **Comparison of the Long-term Effects of Oral Estriol with the Effects of Conjugated Estrogen, 1-d-Hydroxyvitamin D3 and Calcium Lactate on Vertebral Bone Loss in Early Menopausal Women.**

Itoi, H., Minakami, H., Satom, I.

We investigated the long-term effects of oral estriol ( $E_3$ ) on bone mineral density (BMD) at the lumbar spine and biochemical indices of bone turnover in early menopausal women. We studied 64 healthy early menopausal women who were treated for 24 months with 2.0 mg  $E_3$  plus 2.5 mg medroxyprogesterone acetate daily ( $E_3$  group, n = 15), 0.625 mg of conjugate d estrogen plus 2.5 mg medroxyprogesterone acetate daily (CE group, n = 19), 1.0  $\mu$ g 1- $\alpha$ -hydroxyvitamin D, daily (D3 group, n = 13), or 1.8 g calcium lactate containing 250 mg of elemental calcium daily (Ca group, n = 17). The BMD at the third lumbar vertebra was determined by quantitative computed tomography, and serum levels of osteocalcin (OC) and total alkaline phosphatase (Alp), as well as urinary ratios of calcium-to-creatinine (Ca/Cr) and hydroxyproline-to-creatinine (Hyp/Cr), were evaluated at baseline and every 6 months. After 24 months of treatment, the BMD decreased significantly by  $12 \pm 4.5\%$  (mean  $\pm$  SE.) in the D3 group and  $14 \pm 2.5\%$  in the Ca group, but not in the  $E_3$  group ( $-4.1 \pm 4.8\%$  from baseline) and in the CE group ( $-0.9 \pm 3.2\%$  from baseline). The serum levels of Alp and OC decreased or remained unchanged in the  $E_3$  and CE groups, but increased in the D3 and Ca groups. The urinary Ca/Cr was decreased in the  $E_3$  and CE groups, but not in the D, and Ca groups. The urinary Hyp/Cr decreased in the CE group, was unchanged in the  $E_3$  and D, groups, and increased in the Ca group. Uterine bleeding occurred less frequently in the  $E_3$  than in the CE group ( $2.4 \pm 4.2$  versus  $3.1 \pm 4.8$  days/person per year,  $P < 0.001$ ). The bone-preserving effect of 2.0 mg of oral  $E_3$  was comparable to that of 0.625 mg of conjugated estrogen and was superior to that of 1.0  $\mu$ g 1- $\alpha$ -hydroxyvitamin D, and 1.8 g Ca. Our findings suggest that a reduction in bone turnover in the  $E_3$  group may have contributed to the preservation of bone.

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