The effects of tibolone in older postmenopausal women.

BACKGROUND: Tibolone has estrogenic, progestogenic, and androgenic effects. Although tibolone prevents bone loss, its effects on fractures, breast cancer, and cardiovascular disease are uncertain.

METHODS: In this randomized study, we assigned 4538 women, who were between the ages of 60 and 85 years and had a bone mineral density T score of -2.5 or less at the hip or spine or a T score of -2.0 or less and radiologic evidence of a vertebral fracture, to receive once-daily tibolone (at a dose of 1.25 mg) or placebo. Annual spine radiographs were used to assess for vertebral fracture. Rates of cardiovascular events and breast cancer were adjudicated by expert panels.

RESULTS: During a median of 34 months of treatment, the tibolone group, as compared with the placebo group, had a decreased risk of vertebral fracture, with 70 cases versus 126 cases per 1000 person-years (relative hazard, 0.55; 95% confidence interval [CI], 0.41 to 0.74; P<0.001), and a decreased risk of nonvertebral fracture, with 122 cases versus 166 cases per 1000 person-years (relative hazard, 0.74; 95% CI, 0.58 to 0.93; P=0.01). The tibolone group also had a decreased risk of invasive breast cancer (relative hazard, 0.32; 95% CI, 0.13 to 0.80; P=0.02) and colon cancer (relative hazard, 0.31; 95% CI, 0.10 to 0.96).
However, the tibolone group had an increased risk of stroke (relative hazard, 2.19; 95% CI, 1.14 to 4.23; \( P=0.02 \)), for which the study was stopped in February 2006 at the recommendation of the data and safety monitoring board. There were no significant differences in the risk of either coronary heart disease or venous thromboembolism between the two groups. CONCLUSIONS: Tibolone reduced the risk of fracture and breast cancer and possibly colon cancer but increased the risk of stroke in older women with osteoporosis. (ClinicalTrials.gov number, NCT00519857.)