Comparison of the skeletal effects of the progestogens desogestrel and levonorgestrel in oral contraceptive preparations in young women: controlled, open, partly randomized investigation over 13 cycles.

AIM: This 12-month study was conducted to evaluate the skeletal effects of two monophasic oral contraceptives containing 20 mug of ethinylestradiol and 100 mug of levonorgestrel (LEVO) or 150 mug of desogestrel (DESO). METHODS: Fifty-two women (18-24 years) were randomized into the DESO group or the LEVO group; 36 women served as controls. The areal bone mineral density (aBMD) of the femoral neck and the lumbar spine was evaluated by DXA, and parameters of bone geometry and volumetric bone mineral density (vBMD) were assessed by peripheral quantitative computed tomography at the distal radius and the tibia. RESULTS: The LEVO group did not lose vertebral aBMD, whereas women in the DESO group lost 1.5%. At the distal radius and the tibia (shank level, 14%), LEVO induced an increase in total cross-sectional area, indicating increased periosteal bone formation. Radial trabecular vBMD declined by 1.4±1.8% in the DESO group, while it remained unchanged in the LEVO group. CONCLUSION: Our study suggests that the skeletal effects of OC preparations may be influenced by progestogenic components in young women.

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