Use of depot medroxyprogesterone acetate for 24 months was associated with a significant decrease in bone mineral density compared with nonhormonal contraception.

Adolescent girls who used intramuscular depot medroxyprogesterone acetate (DMPA) for long periods of time had slower bone mass accrual compared with girls who were taking nonhormonal forms of contraception, the results of a new study indicate.

In 2004, the FDA issued a Black Box Warning for DMPA, stating that its use was associated with a significant loss of bone mineral density (BMD), the severity of which may increase with a longer duration of use. The warning also stated, “it is unknown if use of [DMPA] during adolescence or early adulthood, a critical period for bone accretion, will reduce peak bone mass and increase the risk for osteoporotic fracture later in life.”

To examine the effects of DMPA on bone mass accrual in adolescents, researchers at the Shandong Provincial Institute of Science and Technology for Family Planning in China conducted a study to compare BMD of the lumbar spine and femoral neck in adolescents taking DMPA with BMD of and those who were not.

The study included 102 women aged 16 to 18 years who had been taking DMPA for 24 months and 97 women aged 16 to 18 years who were using nonhormonal contraception. BMD measurements were taken every 12 months for 2 years.

At the 2-year follow-up, women who had been using DMPA saw nonsignificant decreases in BMD compared with baseline. The decrease in BMD at the lumbar spine was 1.88% and the decrease at the femoral neck was 2.32%.

In contrast, women who were taking nonhormonal forms of contraception had nonsignificant increases in BMD. At the 2-year follow-up, there was a 2.08% increase in BMD at the lumbar spine and an increase of 1.46% at the femoral neck.

Comparing the two groups, the researchers found no significant difference in BMD over 12 months of use of DPMA compared with the nonhormonal contraception. However, when carried out to 24 months, BMD for women using DMPA was significantly lower at the lumbar spine and the femoral neck (P=0.009 for both).

**Pertinent Points:**
- The use of depot medroxyprogesterone acetate for 12 months did not significantly alter bone mass accrual compared with use of nonhormonal contraception.
- Use of depot medroxyprogesterone acetate for 24 months was associated with a significant decrease in bone mineral density compared with nonhormonal contraception.

**References:**

**Source URL:**
http://www.physicianspractice.com/contraception/long-term-use-dmpa-may-decrease-bone-mass-accrual-adolescents

**Links:**