Supplementation Not Enough to Reduce Fractures

BY DIANA MAHONEY New England Bureau

HARROGATE, ENGLAND — Calcium and vitamin D supplementation do not reduce the risk of clinical fracture among women identified as having one or more risk factors for hip fracture, a randomized controlled trial has shown.

Investigators at the University of York (England), in collaboration with community primary care providers, recruited 3,322 women aged 70 years and older, who had at least one of the following risk factors for hip fracture: previous fracture, low body weight, maternal history of hip fracture, a fall in the previous 12 months, or older age (per year increase).

About half of the women were randomized to receive daily oral supplementation of 1,000 mg of calcium and 800 IU vitamin D, along with a patient information leaflet on dietary calcium intake and fall prevention. The remaining patients were randomized to a control group and received only the patient information leaflet, reported York University research fellow Jill Porthouse in a presentation at the annual conference of the National Osteoporosis Society.

After a median follow-up of 25 months, there were no significant differences between the two groups in the rates of all clinical fractures or hip fractures. The odds ratio for all fractures in the supplement group compared with the control group was 1.03. For hip fractures specifically, the odds ratio was 0.82.

The findings are disappointing, Ms. Porthouse noted.

"Fall-related low-trauma fractures represent a significant burden of illness in older people. Calcium and vitamin D supplementation is a relatively inexpensive intervention, but it does not appear to reduce fracture rates in women at risk," she said.

Many Sickle Cell Patients Have Weak Bones

SAN DIEGO — Nearly half of adults with sickle cell anemia have osteopenia, according to results from a small study.

"Iron overloading from blood transfusion may be a relevant contributing factor, as liver iron was significantly greater in osteopenic than nonosteopenic patients," Farrukh T. Shah, M.D., said in a poster session at the annual meeting of the American Society of Hematology. "We need to look in more detail at transfused vs. nontransfused patients and see whether the iron overload story holds out."

Other potential contributory mechanisms based on previous clinical research include marrow expansion, bone infarction, delayed puberty from anemia, low vitamin D levels, iron chelation therapy, and hypogonadism.

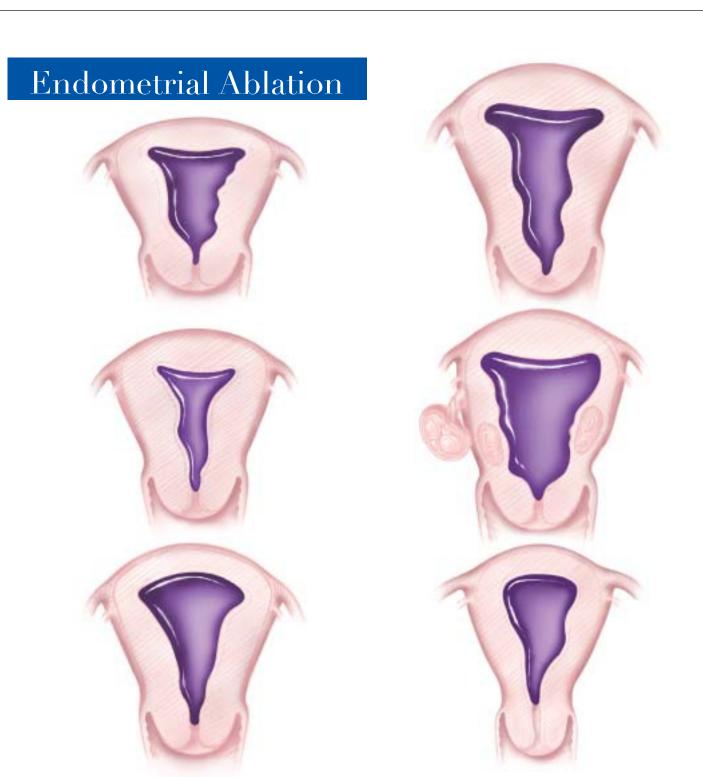
For the study, the investigators performed dual-energy x-ray absorptiometry (DEXA) scans on 10 female and 7 male consecutive sickle cell disease patients who had previously been transfused or were currently on a transfusion program. The investigators also assessed hypogonadism, vitamin D_3 , parathyroid hormone, serum ferritin, and hemoglobin levels, said Dr. Shah, of the department of hematology at Whittington Hospital NHS Trust, London.

Among females in the study, six had osteopenia or osteoporosis in the spine; four had significant demineralization of the hip (two had osteoporosis and two were osteopenic). Liver iron concentrations were higher among osteopenic females than in their nonosteopenic counterparts; the levels of serum estradiol were not different between the two groups. No differences were seen between the two groups in terms of ferritin, units of blood transfused, parathyroid hormone, or vitamin D.

Among males in the study, two had spinal osteopenia but none had osteopenia of the hip. Liver iron levels and serum ferritin levels were higher in the osteopenic males than in the nonosteopenic males. No differences were noted between the two groups in terms of the serum testosterone, units of blood transfused, parathyroid hormone, or vitamin D.

Overall, 47% of the study participants had osteopenia.

—Doug Brunk



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