OC Counters Bone Loss in Anorexic Teenagers

BY JANE SALODOF MacNEIL
Southwest Bureau

Los Angeles — The oral contraceptive Ortho Tri-Cyclen may help teenaged girls with anorexia nervosa build bone mass as a defense against osteoporosis later in life.

Compared with placebo, it produced significantly greater increases in mean bone mineral density (BMD) of the lumbar spine during a 123-patient, double-blind, randomized trial reported at the annual meeting of the Society for Gynecologic Investigation.

This advantage was significant in 88 teens who completed the 13-cycle trial, but did not endure beyond 6 months in 112 girls who made up an intent-to-treat population. Increases in hip BMD were not significantly different at 6 months or 1 year.

"Treatment of adolescent females with anorexia nervosa may improve lumbar spine but not total hip [BMD] in subjects treated for at least 12 cycles," investigator Andrew Friedman, M.D., concluded.

Dr. Friedman is senior director of clinical research at Johnson & Johnson Pharmaceutical Research and Development in Raritan, N.J., which sponsored the study. A subsidiary, Ortho-McNeil Pharmaceutical Inc., manufactures Ortho Tri-Cyclen.

Although no other oral contraceptives were tested, Dr. Friedman acknowledged that some might offer a similar benefit for this population.

In the intent-to-treat population, average lumbar spine BMD increased 2.4% at 6 months for girls on Ortho Tri-Cyclen, but only 1% for the placebo group.

Among the subjects who completed the trial, average lumbar spine BMD increased 3.1% at 6 months and 4.5% at 1 year for those on the contraceptive. BMD only increased 1.1% and 2.8%, respectively, in the placebo group.

All subjects received calcium and vitamin D, and both groups gained weight during the trial. Safety data for the 123 enrollees showed adverse events to be similar for both cohorts, except for worsening of anorexia nervosa. Eleven girls on placebo and 3 on Ortho Tri-Cyclen were hospitalized for relapses.

"To treat the whole patient, [oral contraceptive] is not a substitute for counseling and other types of therapy, but it serves as an important adjunct to improve their [BMD] and maximize their peak bone mass," Dr. Friedman said in an interview.

The study enrolled postmenarcheal patients up to age 17 years at 91 sites. Their average age was 15 years, and their mean body mass index was below 18. Dr. Friedman said 10% had primary amenorrhea attributable to anorexia nervosa, and 90% had secondary amenorrhea. Almost all were Caucasian.

In the interview, he said the girls were advised to use an additional form of contraception if sexually active in case they began to menstruate during the study. Some mothers declined to allow their minor daughters to participate because the protocol called for birth control, he noted. Another barrier was the girls' concern about possible weight gain from the pill.

As endogenous estrogen is known to help build bones in puberty, Dr. Friedman said the investigators hypothesized that estrogen in the contraceptive pill would play a similar role in these girls. In adults, he said there is conflicting data on whether a combination of estrogen and progesterone would build bone density. The oral contraceptive had not been previously tested in adolescents with anorexia nervosa, according to Dr. Friedman.

"I wouldn't advocate birth control pills for all anorexia nervosa subjects, but it may be appropriate for some subjects, and that is really a clinical decision," he said. ■

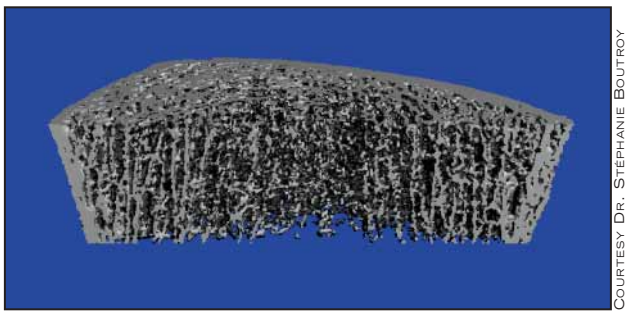
Verbatim

'Teachers aren't free to talk about anything more than the plumbing, and parents generally aren't saying anything at all.'

Nora Gelperin, Network for Family Life Education at Rutgers, p. 27

High-Resolution CT Accurately Assesses Bone Microarchitecture

BY JEFF EVANS
Senior Writer



Courtesy Dr. Stéphanie Boutroy

This high-resolution peripheral quantitative CT scan of an osteoporotic woman's tibia shows worsening trabecular connectivity, separation, and distribution.

Bethesda, Md. — High-resolution peripheral quantitative CT is a promising technology for identifying osteoporosis-related changes in bone microarchitecture, according to results of a prospective study.

Data from the noninvasive technique suggests that the imaging procedure will provide new insight into the degradation of bone mineral architecture that occurs in osteoporosis, Stéphanie Boutroy, Ph.D., said at a meeting on bone quality.

Dr. Boutroy of France's National Institute of Health and Medical Research, Lyon, described her findings from an investigation of the scanning technique in 108 healthy premenopausal women (aged 19-45 years), 109 osteopenic, postmenopausal women (aged 52-88 years), and 33 osteoporotic, postmenopausal women (aged 61-84 years). The women were classified as osteopenic or osteoporotic based on bone mineral density (BMD) measures taken by dual x-ray absorptiometry of the femoral neck or spine.

Initially, eight healthy women underwent three separate scanning sessions within 1 month to determine the short-term reproducibility of the density and architecture parameters of the scanning protocol. In the three sessions, trabecular and cortical volumetric BMD measurements varied by only 0.5%-1.3% in each of those eight patients. Similarly, trabecular architecture values varied by 0.9%-3.1% for each patient between sessions.

When Dr. Boutroy examined the relationship between volumetric BMD and architectural parameters, she found that total density, as expected, was strongly correlated to trabecular and cortical density. Trabecular and cortical density were strongly correlated to trabecular architecture and cortical thickness.

At the distal radius, osteoporotic women had significantly lower total volumetric BMD and cortical thickness compared with osteopenic women. Osteoporotic women also had comparatively lower trabecular density, number, thickness, and separation. No differences were found in cortical density or the distribution of trabeculae between the groups, Dr. Boutroy said at the meeting, sponsored by the National Institute of Arthritis and Musculoskeletal and Skin Diseases and the American Society for Bone and Mineral Research.

At the tibia, osteoporotic women had significantly lower measurements on all parameters (total volumetric BMD, cortical and trabecular density, and trabecular number, thickness, and separation) than osteopenic women.

Dr. Boutroy said she has no financial interest in the companies that manufacture high-resolution peripheral quantitative CT devices. ■