**Age, BMI Particularly Vital**

Osteoporosis from page 1

Osteoporosis is a condition characterized by low bone mass and deterioration of bone tissue, leading to weakened bones that are more susceptible to fractures. The seriousness of osteoporosis is heightened when falls are involved, as they can result in serious injuries such as hip fractures, which can lead to hospitalization, long-term care, and significant morbidity and mortality.

**Periodic Ibandronate Injections Improve Bone Density at 2 Years**

BY KERRI WACHTER
Senior Writer

**PHILADELPHIA —** Intermittent intravenous injections of ibandronate continue to improve bone mineral density of the spine and hip at 2 years, according to data that were presented at the annual meeting of the American Society for Bone and Mineral Research.

The 2-year results from the Dosing Intravenous Administration (DIVA) study show that IV ibandronate injections every 2 or 3 months were superior to oral daily ibandronate (Boniva) in terms of increased bone mineral density (BMD) at the lumbar spine. The periodic IV injections were also superior to oral daily ibandronate at 1 and 2 years in terms of increased BMD for the total hip, femoral neck, and trochanter.

IV ibandronate injections improve BMD at the spine and the hip and [they produce] superior BMD gains to oral dosing,” said Dr. E. Michael Lewiecki, who is both the osteoporosis director of the New Mexico Clinical Research and Osteoporosis Center and also a professor of medicine at the University of New Mexico in Albuquerque.

The study was funded in part by F. Hoffman-La Roche Ltd. as well as by GlaxoSmithKline. Dr. Lewiecki disclosed that he has received research grants from both of those companies.

DIVA was a randomized, double-blind, active-control study involving women aged 55-80 years, who were at least 5 years postmenopausal and who had a lumbar spine T score less than –2.5. Overall, 1,395 women were randomized to receive 2-mg IV ibandronate injections every 2 months (454 women), 3 mg IV ibandronate every 3 months (472 women), or 2.5 mg daily oral ibandronate (469 women).

All of the women also received daily calcium (500 mg) and vitamin D (400 IU) supplements.

The study’s primary end point was mean percent change from baseline in lumbar spine BMD at 1 year, and these results were presented at the 2005 annual meeting of the American College of Rheumatology.

The secondary end points of the study included mean percent change from baseline in lumbar spine BMD at 2 years, and mean percent change from baseline in total hip, femoral neck, and trochanter BMD at 1 and 2 years.

In early 2006, the Food and Drug Administration approved the 3-mg trimonthly ibandronate IV injection for the treatment of postmenopausal osteoporosis.

“These data support the use of the every-3-month regimen in clinical practice,” Dr. Lewiecki said.

**Mean Percentage Increase From Baseline in BMD With Ibandronate**

- **Lumbar Spine**
  - Year 1: 3.8%
  - Year 2: 4.8%
- **Total Hip**
  - Year 1: 1.8%
  - Year 2: 2.2%
  - Total Hip BMD at 2 years: 3.1%
- **Femoral Neck**
  - Year 1: 1.6%
  - Year 2: 2.2%
  - Femoral Neck BMD at 2 years: 2.8%
- **Trochanter**
  - Year 1: 3.0%
  - Year 2: 3.5%
  - Trochanter BMD at 2 years: 4.9%

Source: Dr. Lewiecki

By Mary Ann Moon
Contributing Writer

Older men who have low testosterone levels are at substantially higher risk of falling than are their peers who have normal or high levels, reported Dr. Eric Orwoll, of Oregon Health and Science University, Portland, and his associates said in the Oct. 23 issue of the Archives of Internal Medicine.

They examined the issue using data from the MrOS study, a multicenter community-based cohort study of approximately 6,000 men aged 65 and older that was designed to identify risk factors for falls and fractures.

A subgroup of 2,623 subjects who were followed at 4-month intervals for a mean of 4 years were the basis of the study. The mean age was 73 years, and most of the participants rated their general health as good to excellent.

Falls were very common, with 56% of the men reporting at least one fall over the course of follow-up. Falls were more common at older ages, with more than 20% of men over age 80 reporting that they had fallen five times more, compared with only 10% of men aged 65-69 years.

The risk of falling increased in men with declining levels of bioavailable testosterone.

“Fall risk in men in the lowest quartile of baseline bioavailable testosterone concentration was more than 40% greater than that in men in the highest quartile, [both] before and after adjustment for physical performance,” Dr. Orwoll and his associates noted (Arch. Intern. Med. 2006;166:2124-31).

When they repeated their analysis using data only of the healthiest subjects, this association did not change.

Men with lower testosterone levels also were at higher risk for multiple falls (more than 2) and hip fractures. The risk of falls was also greater in men who had reduced levels of muscle strength or physical function.

However, when these factors were statistically controlled for, the effect of testosterone level on fall risk was unchanged. This demonstrates that the association between testosterone level and fall risk is strong regardless of the subject’s physical performance and muscle strength.

“There may be other androgen-dependent mechanisms that contribute to the causation of falling,” such as testosterone’s effects on visual performance, cognition, or neuromuscular coordination, the investigators noted.

Given that their large study population was geographically and racially diverse, Dr. Orwoll and his associates pointed out, “These results provide additional justification for trials of testosterone supplementation in older men,” Dr. Orwoll and his associates said.

**Risk of Falling Is Higher in Older Men With Low Testosterone**

BY MARY ANN MOON
Contributing Writer

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