Zoledronic Acid Tops Raloxifene for Bone Loss

BY MICHELE G. SULLIVAN

WASHINGTON — A single yearly infusion of zoledronic acid suppressed serum markers of bone turnover better than 6 months of daily oral raloxifene in postmenopausal women with low bone mineral density in a randomized, placebo-controlled trial.

Although women who received the 5-mg infusion of zoledronic acid had significantly more immediate adverse events than did those receiving a placebo infusion, the long-term adverse event rate was similar in both groups, said Dr. Audrey Kriegman, who presented the data at a poster session during an international symposium sponsored by the National Osteoporosis Foundation.

The trial randomized 110 postmenopausal women (mean age, 60 years) to either the active infusion followed by 6 months of daily oral placebo, or to a placebo infusion followed by 6 months of daily raloxifene (60 mg). Most of the women (86%) were white; they were a mean of 13 years beyond menopause. About a third of the women (37%) had a mean T score of –2.5 or lower at the lumbar spine, total hip, or femoral neck; the remainder had a T score of –2.5 to –1.5.

The study's primary end points were the 6-month measurements of urine N-telopeptide of type I collagen corrected by creatinine (NTx) and bone-specific alkaline phosphatase (BSAP). Measurements of these markers at 2 and 4 months were the secondary end points.

The mean NTx:creatinine ratio was significantly lower in the zoledronic acid group than in the raloxifene group at all time points. (See box.) At 6 months, the decrease was 14% greater in the zoledronic acid group than in the raloxifene group.

The mean BSAP was also significantly lower at all time points in the zoledronic acid group. At 6 months, the BSAP level was 7% lower in the zoledronic acid group than in the raloxifene group.

The immediate adverse events were significantly higher in the zoledronic acid group, an expected finding, Dr. Kriegman said in an interview. "The overall incidence of adverse events was similar in the zoledronic acid and raloxifene treatment groups except during the first 3 days post infusion. This difference was mainly driven by transient postinfusion symptoms in the zoledronic acid treatment group. A mild pain reliever, such as acetaminophen, may reduce these symptoms."

The immediate adverse events included nausea (36% zoledronic acid vs. 11% placebo), pyrexia (11% vs. 0%), myalgia (5% vs. 6%), pain (7% vs. 0%), chills (5% vs. 2%), and flulike illness (5% vs. 0%).

However, later-onset adverse events occurring more than 3 days after the infusion were "relatively balanced" between the groups, Dr. Kriegman said. These included sinusitis (7% each), urinary tract infection (7% vs. 4%), diarrhea (7% vs. 2%), constipation (2% vs. 6%), back pain (5% vs. 0%), and hypertension (5% vs. 0%).

Dr. Kriegman is the senior medical director for osteoporosis at Novartis Pharmaceuticals Corp. Novartis sponsored the study. ■

Change From Baseline in Bone Turnover Markers

Markers	2 months	4 months	6 months
NTx (nmol):creatinine (mmol) ratio			
Zoledronic acid	–31	–28	–25
Raloxifene	–4	–4	–8
BSAP (U/L)			
Zoledronic acid	–9	–11	–11
Raloxifene	–1	–2	–2

Note: Based on a study of 110 postmenopausal women.
Source: Novartis Pharmaceuticals Corp.