

Local Corticosteroids Slowed RA Hand Bone Loss

BY DOUG BRUNK

FROM ANNALS OF THE RHEUMATIC DISEASES

Patients with early rheumatoid arthritis who were on methotrexate and received intra-articular corticosteroid injections into inflamed metacarpophalangeal joints for 3 months lost less periarticular density than did those who received methotrexate alone, results from a small study demonstrated.

The finding “supports the concept that, in conditions where inflammation dominates such as early RA, treating inflammation is more important than the negative effect of corticosteroids on bone,” reported researchers led by Dr. Glenn Haugeberg.

Dr. Haugeberg, professor of neuroscience at the Norwegian University of Science and Technology, Trondheim, and a mem-

ber of the department of rheumatology at Sørlandet Hospital in Kristiansand (Norway), and his associates at two clinical centers in the United Kingdom treated 19 early RA patients with methotrexate alone and 21 with methotrexate plus intra-articular corticosteroid injections for 3 months. Over the next 9 months, all 40 patients received methotrexate plus intra-articular corticosteroid injections.

To assess the effect of treatment on bone loss, the researchers used MRI of the metacarpophalangeal joints of the dominant hand (that is, MCP joints 2-5) at baseline and 3 and 12 months, as well as DXA images of both hands at baseline and 3, 6, and 12 months (*Ann. Rheum. Dis.* 2011;70:184-7). They used linear regression analysis to determine the association between reduction in bone mineral density and de-

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Major Finding: In the first 3 months, the rate of bone loss among patients with early RA who were treated with intra-articular corticosteroid injections plus methotrexate vs. methotrexate alone was -0.45% vs. -2.69% , respectively, in digit 2; -0.34% vs. -3.32% in digit 3; -0.39% vs. -2.57% in digit 4, and -0.59% vs. -2.70% in digit 5.

Data Source: A study of 40 patients who were treated for 12 months.

Disclosures: The researchers stated that they had no relevant financial disclosures to make.

mographic and disease variables, adjusting for treatment group.

The mean age of patients was 54 years, and 55% were women. In the first 3 months, patients who received methotrexate plus intra-articular corticosteroid injections experienced significantly less bone loss in MCP joints 2-5 than did their counterparts in the methotrexate-only group. The rate of bone loss was -0.45% vs. -2.69% , respectively, in digit 2; -0.34% vs. -3.32% in digit 3; -0.39% vs.

-2.57% in digit 4, and -0.59% vs. -2.70% in digit 5.

Bone loss in the hand overall was less pronounced over the same time period (-1.53% in patients who received methotrexate plus injections, compared with -2.42% in those in the methotrexate-only group).

In months 3-12, when all patients received intra-articular corticosteroid injections, only minor, nonsignificant differences in the rate of bone loss were observed between the two groups.

“Data from the current study suggest that bone loss may be arrested by intra-articular corticosteroid injections more effectively in periarticular regions than in the whole hand,” the researchers wrote. “This may support the view that periarticular osteoporosis results from local production of proinflammatory cytokines which activate osteoclasts to break down bone locally and is not predominantly the result of circulating proinflammatory cytokines.”

They acknowledged certain limitations of the study, including the small sample size and the fact that “the precision of DXA for periarticular regions is poor compared with whole hand measurement. Furthermore, the method is not feasible for clinical use; it has therefore been recommended that assessment of the whole hand be used as a marker for periarticular bone loss.” ■

Targeted Interventions Improve Hip Fracture Outcomes

BY DAMIAN McNAMARA

FROM THE ANNUAL MEETING OF THE GERONTOLOGICAL SOCIETY OF AMERICA

NEW ORLEANS – Compared with usual care after hip fracture, a comprehensive and targeted intervention that includes high-intensity progressive resistance training over 12 months lowers mortality, decreases nursing home admissions, improves activities of daily living dependency, and decreases the use of assistive devices, according to a randomized, controlled trial.

“It is possible to change the most important outcomes for these people,” Dr. Maria A. Fiatarone Singh said.

Functional dependency, however, did not significantly differ between groups.

Many facets of hip fractures have been studied, from pharmacologic prevention of osteoporosis to acute hospital interventions to fracture rehabilitation. “Although we’ve done a lot of studies, we still have not figured out how to prevent people from entering a nursing home or dying,” said Dr. Singh, professor of medicine and chair of exercise and sport sci-

ence at the University of Sydney.

So Dr. Singh and her colleagues launched the Hip Fracture Intervention Trial (HIPFIT). They compared outcomes for 62 hip fracture patients randomized to resistance training and up to 12 other interventions vs. 62 patients randomized to usual care. She presented results at the meeting.

Intervention was associated with an 84% reduction in the likelihood of nursing home admission (odds ratio, 0.16), compared with usual care, Dr. Singh explained. In absolute numbers, 5 intervention patients (8%) and 12 control patients (19%) were admitted to a nursing home during the 12 months of follow-up.

“Hip fracture is associated with chronic pain, reduced mobility, disability, and increasing degree of dependence. After hip fracture, 10%-20% of formerly community-dwelling people require long-term nursing home care,” Dr. Singh said.

Four intervention patients and eight usual-care patients died. Age-adjusted risk of death was significantly reduced in the intervention group, compared with usual care (OR = 0.19). Cardiovascular disease, infection, and stroke were among the causes.

Dr. Singh and her associates hypothesized that long-term disability and nursing home utilization after hip fracture would be reduced by targeted, multifactorial intervention aimed at the primary risk factors. They



Resistance training was 1 of 13 interventions that kept hip fracture patients out of nursing homes.

chose modifiable risk factors to make application of their findings more practical, including sarcopenia/muscle weakness, poor balance or gait, malnutrition or weight loss, vitamin D insufficiency, and vision concerns.

All intervention group participants received hip protectors and supervised, high-intensity, progressive resistance training for 12 months. The protocol included seven exercises designed for both upper and lower body strength. A meeting attendee questioned how patients were able to exercise after hip fracture. The intervention began with an isometric measure of strength and actual strength training started about 6 months after fracture, Dr. Singh replied.

Balance training exercises were progressive as well. As tasks were mastered, participants graduated to a more difficult level. For example, if a person could balance holding on to something with two hands, next they progressed to one hand and then to one finger.

Interventions were added for individual participants as needed, up to a total of 13. Treatment of depression, nutritional supplementation, medication management, and vision assessment are examples. Some participants received home assess-

ment and referral to community services. Others received interventions to address risk and/or fear of falling, low self-efficacy, and polypharmacy.

Evaluations were done at baseline and at 4 and 12 months after fracture, with regular review by geriatricians, general practitioners, and ophthalmologists.

Usual care included 6-12 weeks of physiotherapy, an orthopedic consult at 6 weeks, and any recommended therapies.

Even though overall functional dependency did not differ significantly, intervention was associated with significantly less decline in some functional dependency KATZ scores (total, continence, and transfer) at 12 months, compared with their prefracture baseline.

In the current study, after the researchers controlled for age, there was less of a decline in function for total KATZ score, transfer change, and continence change if patients were in intervention group vs. usual care, Dr. Singh said.

At baseline, the community-dwelling participants were 69% female; mean age, 79 years; 83% at nutritional risk; 88% vitamin D insufficient; 90% living independently (vs. 10% in nursing homes); and 38% were cognitively impaired. A total 45% were depressed. The mean number of chronic diseases was 3.4. The usual-care group reported worse bodily pain, the only significant difference between groups.

There were no adverse events, except for some musculoskeletal soreness after activity, said Dr. Singh, who is also a senior research associate at Harvard University and a visiting scientist for the Jean Mayer USDA Human Nutrition Research Centre on Aging at Tufts University, all in Boston. ■

VITALS

Major Finding: Age-adjusted risk of death was significantly reduced in the intervention group, compared with usual care (odds ratio = 0.19).

Data Source: The Hip Fracture Intervention Trial (HIPFIT) compared outcomes for 62 hip fracture patients randomized to resistance training and up to 12 other interventions versus 62 randomized to usual care (6-12 weeks of physiotherapy, an orthopedic consult at 6 weeks, and any recommended therapies).

Disclosures: Dr. Singh said she had no relevant financial disclosures.