Long-Term Steroids Double Bone Mass Risk

BY KERRI WACHTER

DENVER — Patients with rheumatic diseases who were on long-term glucocorticoid therapy were about twice as likely to have low bone mass as were those who were not on glucocorticoids, results of a study of more than 200,000 patients have shown.

The findings were presented as a poster at the annual meeting of the American Society for Bone and Mineral Research by Dr. Viviana A. Reidel and her coinvestigators.

The researchers used UnitedHealth Group Inc.’s proprietary normative health information database of medical claims—both private and Medicare/Medicaid. In 2007, the database included information on 23.6 million people.

Dr. Reidel and her colleagues identified those who had had at least two visits resulting in an ICD-9-CM code for a rheumatic disease and an ICD-9-CM code for either osteoporosis or osteopenia occurring after the first prescription of a glucocorticoid.

Long-term glucocorticoid use was defined as one or more monthly prescriptions for at least 6 months. High-dose glucocorticoids were defined as a prednisone dosage of at least 7.5 mg/day, or the equivalent; low-dose use was a prednisone dosage of less than 7.5 mg/day, or the equivalent. The nonglucocorticoid group included patients with rheumatic diseases who were prescribed any other therapy or no therapy.

In all, 201,121 patients with rheumatic diseases were identified. The most common disease was rheumatoid arthritis (57%), followed by systemic lupus erythematosus, spondyloarthropathies, polymyalgia rheumatica, vasculitis, and enteropathic arthritis. Among those with long-term glucocorticoid use, 44% of women and 11% of men had low bone mineral density. Among those non-long-term users, 31% of women and 4% of men had low BMD.

Patients with rheumatic diseases who were on long-term glucocorticoids had a relative risk of 1.7 of having low bone mass, compared with those who were not on glucocorticoids. “However, our analysis suggests that the effect of long-term higher-dose glucocorticoid treatment on increasing risk of glucocorticoid-induced low bone mass compared to long-term lower-dose glucocorticoid treatment is weak,” wrote Dr. Reidel, medical director at i3 Research, a clinical research company. There was a slight but significantly increased risk of low bone mass in patients who were treated long term with high-dose glucocorticoids, compared with those treated long term with low doses.

The researchers also found that only 0.2% of patients with long-term glucocorticoid use had at least one dual-energy x-ray absorptiometry scan, compared with 8% of those with no known glucocorticoid exposure.

There are plans to look at any associations between long-term glucocorticoid use and BMD by rheumatic disease, Dr. Reidel said in an interview.

FRAX 10-Year Predictions Match Fracture Incidence

BY KERRI WACHTER

DENVER — The FRAX 10-year fracture risk tool was fairly accurate in predicting the observed number of hip fractures that occurred among more than 3,000 participants of the Framingham Heart Study, according to data presented as a poster at the annual meeting of the American Society for Bone and Mineral Research.

The 10-year observed incidence of hip fracture for women was 117 cases, which did not differ significantly from the FRAX predicted number of 113. For men, the observed incidence was 29 cases, not significantly different from the FRAX prediction of 38, reported Elizabeth J. Samelson, Ph.D., of the Institute for Aging Research in Boston, and her coinvestigators.

FRAX, developed by the World Health Organization, is an online tool to calculate the 10-year probability of hip fracture and major osteoporotic fracture, parental history of fracture, and T score. Original cohort members aged 40-75 years, the incidence was 12 cases, compared with 23 expected by FRAX.

The observed probability of hip fracture in the oldest adults (aged 76-90 years) exceeded the number predicted by FRAX, while the opposite was true for those aged 40-75. Among women aged 76-90 years, the incidence was 65 cases, compared with 53 expected by FRAX; among men aged 76-90 years, the incidence was 17 cases, compared with 14 expected by FRAX.

The study was supported by the National Institutes of Health. The researchers said they had no relevant financial relationships.