Consider Neuropathic Pain in Osteoarthritis

There might be a 'mismatch' between current medications and underlying mechanisms of pain.

BY KATE JOHNSON

MONTREAL — Almost one-fifth of patients with chronic knee osteoarthritis may have symptoms of neuropathic pain, requiring consideration of an alternative approach to their pain management, reported Dr. Jacqueline Hochman at the World Congress on Osteoarthritis.

"In clinical practice, neuropathic pain is generally not considered a feature of osteoarthritis, and among osteoarthritis researchers it is a novel concept," she said in an interview. "But a growing body of literature suggests that one reason for treatment failure in osteoarthritis might be a mismatch between the current medications we're using and the underlying mechanisms of pain."

Dr. Hochman, a rheumatologist at Women's College Hospital in Toronto, explained that current theories about pain point to the possible development of neuropathic pain as a result of the chronic, nociceptive stimulation associated with osteoarthritis.

"Most likely, central sensitization in osteoarthritis arises from chronic or recurrent stimulation of peripheral nociceptors, leading to modifications in the central nervous system that cause hyperexcitability in the spinal cord and, perhaps, supraspinal centers involved in the central transmission of pain," Dr. Hochman said.

The diagnosis of neuropathic pain is a clinical one that is "based on a characteristic symptom profile that includes spontaneous sensations such as burning pain, numbness, and tingling, and evoked sensations such as sensitivity to light touch," she said. In the presence of these symptoms, sensory abnormalities on physical examination, such as pinprick hyperalgesia and allodynia, can aid the diagnosis.

However, there is a paucity of data on symptoms of neuropathic pain in OA, Dr. Hochman said. Because symptoms "are going to lead our patients to seek medical care and alert their physicians to the possibility of underlying neuropathic mechanisms, it's important to know whether people with OA have symptoms of neuropathic pain."

Therefore, in a group of 171 patients (median age, 76 years) with chronic, symptomatic knee osteoarthritis, she administered a modification of the painDETECT questionnaire (mPD-Q) that is designed to distinguish neuropathic from nociceptive pain.

Other study measures included biopsychosocial factors, such as depression, anxiety, pain catastrophizing, and sleepiness; sociodemographics; osteoarthritis severity; comorbid conditions; and medication use.

After the exclusion of the patients who had neurologic conditions (neuropathy, sciatica, shingles, postherpetic neuralgia, multiple sclerosis, stroke, and Parkinson's disease), the study identified 19% of the patients who had symptoms suggestive of neuropathic pain, Dr. Hochman reported.

On multivariate analysis, greater pain intensity and chronic hip or back pain with radiation down either leg (but not below the knee) were correlated with higher scores for neuropathic pain (odds ratio, 3.6).

"The subgroup of patients with neuropathic pain symptoms may benefit from further evaluation and possibly treatment for neuropathic pain," she said.

Many clinicians have long suspected that neuropathic pain plays a role as a part of the pain syndrome in OA.

DR. ALTMAN

Neuropathic pain medications include anticonvulsants such as gabapentin and pregabalin, and tricyclic antidepressants such as amitriptyline and nortriptyline, which are believed to "disrupt the central pain pathway and impact central reorganization at the higher spinal centers," Dr. Hochman said. Antidepressants may also alleviate the depression, anxiety, and sleep disturbances that often accompany—and can also amplify—pain.

Dr. Roy Altman noted that Dr. Hochman is documenting something that many clinicians have long suspected, namely that neuropathic pain plays a role as a part of the pain syndrome in osteoarthritis as a consequence of central pain sensitization.

This information is useful in supporting the use of medications that are not typically considered for osteoarthritis. Since older studies have not documented the value of gabapentin and pregabolin in unselected patients with osteoarthritis, it appears that some benefit could be achieved in selected patients with symptoms compatible with neuropathic pain, according to Dr. Altman, professor of rheumatology at the University of California, Los Angeles.

Additional study of this selected population seems to be in order. Also, more recent research has suggested that in a more general population, serotonin norepinephrine reuptake inhibitors are of value in osteoarthritis, he added.

Dr. Hochman said that further research is needed to determine whether people with painful osteoarthritis who have symptoms of neuropathic pain respond better to neuropathic treatments vs. standard medications such as NSAIDs and acetaminophen. She said that there is little research to date to guide clinicians on whether to treat both nociceptive and neuropathic pain concomitantly, or whether treatment for neuropathic pain can be stopped if pain improves.

The congress was sponsored by the Osteoarthritis Research Society International.

Dr. Hochman said she had no conflicts of interest. ■

Cardiovascular Disease Linked to Risk of Osteoarthritis

BY MITCHEL L. ZOLER

COPENHAGEN — Women with the highest level of cardiovascular disease risk also faced a sharply increased risk for osteoarthritis, in a study of nearly 9,000 women who were followed for 30 years.

Data collected in men showed a similar but less dramatic relationship.

"Our study, for the first time, provides evidence that cardiovascular disease risk factors are associated with an increased risk for osteoarthritis," Dr. Umesh T. Kadam said at the annual European Congress of Rheumatology. "The role of cholesterol and body mass index [in this relationship] needs to be fully investigated," added Dr. Kadam, an epidemiologist in the Arthritis Research Campaign National Primary Care Centre at Keele (England) University.

Prior findings from a variety of researchers showed that cardiovascular disease (CVD) and osteoarthritis (OA) often coexist in patients, and it's been hypothesized that vascular disease could play a pathogenic role in OA, acting in part via lipid metabolic pathways.

To further assess these relationships, Dr. Kadam and his associates used data collected from patients enrolled in the Malmö Preventive Project. The study enrolled a population-based cohort in the 1970s and assessed participants for a range of CVD risks. In the current analysis, knee or hip arthroplasty procedures were surrogates for the development of OA, after patients who had a fracture were excluded. Records on these procedures came from Swedish hospital registries for 8,749 women and 14,821 men from the Malmö cohort.

CVD risk was stratified based on several factors, including age, sex, social class, family CVD history, obesity, smoking status, serum glucose and cholesterol levels, blood pressure, body mass index, and diabetes. During 30 years of follow-up, about 1,000 of the participants had an OA-related procedure.

After the women were stratified into quartiles of CVD risk, those with the highest risk were more than three times as likely to develop OA as were women in the lowest-risk quartile. (See box.) Women in the two middle-risk quartiles had intermediately increased risk levels. The increase in OA episodes over the reference quartile was statistically significant for all three of the higher CVD risk quartiles.

Men also showed significantly higher rates of OA at all three of the higher CVD risk quartiles, but even in the quartile with the highest CVD risk the OA rate was just 70% above the rate among men in the lowest-risk quartile.

In three additional analyses, Dr. Kadam and his associates stratified the women by age, body mass index, or cholesterol level. A similar relationship between CVD risk and OA rate existed in younger women, but in older women the link was substantially blunted. Stratification of women their by body mass index or by their cholesterol level had no effect on the link between CVD risk and OA.

Dr. Kadam said that he and his associates had no financial relationships to disclose. ■

Link Between Cardiovascular Disease Risk and Osteoarthritis Incidence

Quartile of CVD Risk	Relative Rate of OA in Women	Relative Rate of OA in Men
1 (lowest risk)	1.0	1.0
2	2.2*	1.4*
3	3.3*	1.4*
4 (highest risk)	3.5*	1.7*

Note: Results based on 8,749 women and 14,821 men who were followed for 30 years. *Statistically significant difference, compared with reference quartile.

Source: Dr. Kadam

ELSEVIER GLOBAL MEDICAL NEWS

Guides to Knee OA Treatments

The Agency for Healthcare Research and Quality offers a clinician's guide that summarizes the lack of evidence on the safety and effectiveness of three treatments for knee osteoarthritis.

The guide describes the theories behind the use of glucosamine and chondroitin, viscosupplementation, and arthroscopic surgery, but cites data showing an overall lack of benefit from any of these three therapies. To obtain copies of the clinician's guide and a consumer guide to knee osteoarthritis, visit www.effectivehealthcare.ahrq.gov. ■