

Study sheds light on aromatase inhibitor joint pain syndrome

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Breast cancer patients are more likely to have joint pain from taking aromatase inhibitors (AIs) if they have advanced stage cancer, according to a study presented at the American College of Rheumatology's annual meeting, held Nov. 7-11, in Atlanta. The study is one of the first to identify factors that increase the likelihood that a patient will suffer joint pain from AI therapy.

AIs, the standard adjuvant therapy for post-menopausal [breast cancer](#), can cause [joint pain](#) in patients, mostly in the hands and wrists. This pain can sometimes be debilitating. "Patients complain bitterly about this pain that they can get in their hands after starting these medications," said Lisa Mandl, M.D., an assistant attending rheumatologist at Hospital for Special Surgery in New York, who was involved with the study. "It is so bad that sometimes patients stop taking AIs, even though we know the drugs are literally life-saving—they decrease the risk of dying from breast cancer." Studies have shown that up to 15% of patients on AIs discontinue their therapy due to pain.

Because few clinical trials have characterized this syndrome, investigators at Hospital for Special Surgery launched a prospective study to shed some light on the condition. "Nobody has really properly described this syndrome or tried to figure out what might predict you getting it," said Dr. Mandl. "What is the pain? Is it joint arthritis? Is it tendonitis? Is it inflammation of the muscle? We wanted to describe it better than it has been described in the literature to date."

The investigators enrolled 35 post-menopausal women with hormone-sensitive, non-metastatic breast cancer who didn't have rheumatic disease. Subjects were evaluated at baseline, at three months, and at six months after starting aromatase inhibitor therapy. They underwent physical exams and filled out questionnaires about quality of life, health status and pain. Patients also underwent magnetic resonance imaging (MRI) scans at baseline, at the point they complained of any pain, and at six months.

"We were trying to detect inflammation and the anatomic location of their symptoms. Was the pain caused by inflammation in the joints or around the tendon, for example?" Dr. Mandl said.

The study classified women who reported new or worsening musculoskeletal symptoms as symptomatic. Of the 35 women enrolled, 19 (54%) were symptomatic and of these 2 (5.7%) discontinued AI therapy. The mean time to onset of symptoms was six weeks, range two to 18, and 58 percent of symptomatic subjects had pain in their hands. Roughly 11 percent had tenderness of tendons in their hand and 14 percent had generalized wrist stiffness.

The investigators found that MRIs were not always abnormal in symptomatic patients, although in some individual patients who experienced pain, doctors could detect abnormalities on their MRIs. There was no evidence of inflammatory arthritis on MRI, but some of the women who complained of pain had tenosynovitis, inflammation of the fluid-filled sheath that surrounds a tendon in the hand.

The investigators did not find any correlation between depression and pain. Other researchers have hypothesized that the syndrome might be caused by an autoimmune condition, but this study showed no association between autoimmune markers in the blood and pain. "I think it's interesting that we didn't find any autoimmune disease

predisposition. We thought we might," Dr. Mandl said.

Only one factor predicted whether women had pain—having later stage cancer. "If you have stage II or stage III cancer, you are more likely to have this pain than if you have stage I cancer," Dr. Mandl said. She pointed out that women who had cancer that had metastasized to the bone were excluded from the study, so metastases were not the root of the problem.

"Before this study, we knew some women got this pain. Now we know that it is more likely in patients with later stage cancer and at least some of these women have tenosynovitis but not all," Dr. Mandl said. "We were not able to identify any other predisposing factors."

Provided by Hospital for Special Surgery

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