

Microfracture May Keep Athletes in the Game

BY MIRIAM E. TUCKER
Senior Writer

Microfracture is an effective first-line treatment for knee articular cartilage lesions in athletes who participate in high-impact sports, Dr. Kai Mithoefer and associates reported.

Microfracture is a relatively simple technique in which penetration of the subchondral bone induces clot formation containing marrow-derived mesenchymal stem cells, which produce a mixed fibrocartilage repair tissue containing varying amounts of type II collagen. It has become a popular treatment option for knee articular cartilage lesions in athletes, due to its low associated morbidity and rapid postoperative rehabilitation time.

Outcome data on athletes who perform high-impact sports with marked mechanical demands have been limited, said Dr. Mithoefer of Harvard Vanguard Orthopedics and Sports Medicine and Brigham and Women's Hospital, Boston, and associates (*Am. J. Sports Med.* 2006;34:1413-8).

The study population comprised 32 patients, mean age 38, with single cartilage lesions of the femur. Their mean symptom duration was 28 months. All had regularly participated in high-impact, pivoting sports, including basketball (14), tennis (13), football (9), downhill skiing (7), and soccer (5). All underwent microfracture arthroplasty performed by a fellowship-trained orthopedic sur-

geon. Seven patients with meniscus tears also received partial meniscectomy.

At a mean follow-up of 41 months, 21 of the athletes reported good or excellent results on the Brittenberg rating of knee function; significant improvements were seen on the activity-based Marx activity rating scale and Tegner scores. Improvements occurred in the activities of daily living scale in 71% of patients, on the Marx scale in 58%, and in Tegner scores in 72%. After an initial increase, declines in activity scores were observed in 15 athletes, Dr. Mithoefer and associates reported.

A total of 14 athletes (44%) returned to participation in high-impact sports after microfracture. Functional outcome score increases were lower among those who did not return to the sport. Two-thirds of the patients who had been symptomatic for 12 months or less before microfracture were able to return to their high-impact sport, compared with just 14% who had been symptomatic for more than a year before the procedure.

Athletes who received microfracture as first-line treatment were far more likely to return to their sports than were those who had had previous procedures, but concomitant meniscectomy did not have a significant impact on the ability to return to the sport. Patients with lesions of 200 mm² or less were more likely to return than were those with larger lesions, but location of the lesion (medial femoral condyle, lateral femoral condyle, or trochlea) did not affect outcome. ■

Men With Gout Have 26% Higher Risk of Acute Myocardial Infarction

BY SARAH PRESSMAN
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Contributing Writer

Men with a history of gouty arthritis have a significantly higher risk of developing an acute myocardial infarction, reported Dr. Eswar Krishnan of the University of Pittsburgh, and his associates.

"This study is the first to show that among men with no previous history of coronary artery disease, gouty arthritis is a significant independent correlate of subsequent acute myocardial infarction," the researchers reported.

The results revealed a significantly greater number of acute MI events in men with gout (odds ratio, 1.26). The study also found that hyperuricemia is an independent risk factor for acute MI (OR, 1.11).

The finding comes from an evaluation of the Multiple Risk Factor Intervention Trial (MRFIT) data. Researchers of MRFIT, a randomized controlled trial of 12,866 men with a mean age of 46 years, followed the group prospectively for approximately 6.5 years. Initial evaluation included blood pressure and cholesterol measurement (Arthritis Rheum.

2006;54:2688-96). Men with a history of diabetes, acute MI, a high cholesterol level (350 mg/dL or higher), a diastolic blood pressure of greater than 115 mm Hg, and body weight greater than 150% of desirable weight were excluded.

In the original trial, the participants were randomized to a special intervention program that promoted smoking cessation and blood pressure and cholesterol reduction versus usual care, Dr. Krishnan and his associates reported.

To determine the potential relationship between acute MI and gout, the researchers used a two-part definition of gout.

Participants had to answer affirmatively when asked if they had ever been told by a physician that they had gout. They also had to have a uric acid level of greater than 7.0 mg/dL on at least four visits.

Though researchers have not fully elucidated the pathophysiology of the relationship between gouty arthritis and cardiovascular disease, Dr. Krishnan proposed that the increased inflammation associated with gout and hyperuricemia could lead to an increased risk for an acute MI. ■

Etanercept Doesn't Slow Structural Ankylosing Spondylitis Progression

BY BRUCE JANCIN
Denver Bureau

AMSTERDAM — Treatment with etanercept for 2 years failed to inhibit structural progression of ankylosing spondylitis in the first controlled study to examine this key issue, Dr. Desiree M. van der Heijde said at the annual European Congress of Rheumatology.

"This suggests there may not be direct linkage between clinical disease activity, inflammation, and new bone formation in ankylosing spondylitis. It might be that syndesmophyte formation is tumor necrosis factor-independent," added Dr. van der Heijde, professor of rheumatology at University Hospital Maastricht (the Netherlands).

Does etanercept's failure to inhibit structural damage in this study mean that clinicians should narrow their indications for anti-TNF therapy in ankylosing spondylitis (AS) patients? Certainly not, Dr. van der Heijde said.

She pointed out that this study and others have shown that these drugs provide many other worthwhile benefits, including improvement in clinical signs and symptoms, quality of life, and physical function, along with greater bone mineral density and reduced inflammation on MRI.

She reported on 257 AS patients who participated in a 24-week double-blind, placebo-controlled clinical trial of etanercept therapy and then continued on open-label etanercept. Spinal x-rays were taken at baseline and at 2 years, and will be obtained again at 4 years.

The comparison group consisted of 175 patients in the Outcome in Ankylosing Spondylitis International Study (OASIS), none of whom received a TNF inhibitor. The radiographs were analyzed by evaluators blinded to the origin of the films and the time order of the films.

The mean change over 2 years in radiographic structural disease progression as

measured by the modified Stokes Ankylosing Spondylitis Spinal Score was 0.91 in the etanercept study participants, which wasn't significantly different from that noted in OASIS subjects, she reported.

Whether etanercept's lack of inhibition of radiographic disease progression is part of a class effect extending to infliximab and adalimumab is unknown. It is worth remembering, however, that the TNF blockers have differential efficacy in Crohn's disease and uveitis, the rheumatologist said.

One implication of this study might be that TNF inhibitors should be utilized much earlier in the disease process, before syndesmophytes have formed.

The idea—which is well worth pursuing in clinical trials, Dr. van der Heijde said—is to suppress inflammation before the structural damage has begun.

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DR. VAN DER HEIJDE

Rheumatologists at the University of Leuven (Belgium) have developed a hypothesis she finds attractive. They have shown, in mouse models of AS, that once new

bone formation is triggered by inflammation it is a continuing process, even if the inflammation is taken away.

The Belgians have zeroed in on bone morphogenetic proteins as potentially playing a key role in this process.

These proteins are members of the transforming growth factor beta superfamily that induce a cascade of out-of-control bone formation. As such, bone morphogenetic protein signalling may be a potential new therapeutic target, she said.

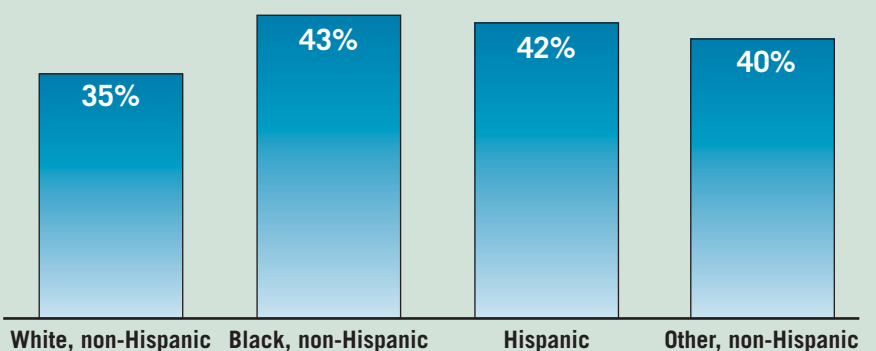
Several audience members criticized Dr. van der Heijde's reliance upon historical controls from OASIS in the etanercept study. She replied that today a 2-year placebo-controlled trial of TNF blockers in AS patients is no longer ethical.

Dr. Robert D.M. Landewé commented that he considered Dr. van der Heijde's study "one of the most important presentations of the whole congress." ■



DATA WATCH

Proportion of Adults Whose Physician-Diagnosed Arthritis Limited Their Activity in 2003-2005



Note: Based on age-adjusted responses from the National Health Interview Survey.
Source: Centers for Disease Control and Prevention