

# Microfracture Surgery Improves Knee Function

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SAN DIEGO — Microfracture as a treatment for full thickness chondral lesions provided functional improvement in a group of professional and recreational athletes at 6-year follow-up, but the level of postoperative sports participation declined with time, Dr. Alberto Gobbi reported at a symposium sponsored by the International Cartilage Repair Society.

The finding suggests that while microfracture can be performed as a simple, minimally invasive method to promote cartilage healing, it “may not be the definitive treatment for the athletes’ knee, as further

**Compared with preoperative evaluation, postoperative imaging showed increased degenerative changes in the knee joint in 30% of patients.**

procedures may be indicated in the future,” said Dr. Gobbi, an orthopedic surgeon with the Orthopedic Arthroscopic Surgery International Research Center in Milan. “However, it can relieve symptoms and delay the need for further treatment.”

Dr. Gobbi and his associate Dr. Ramces Francisco followed 53 professional and recreational athletes who underwent microfracture surgery for unilateral knee articular cartilage injury at their center. Mean patient age was 38 years. Of the patients, 33 were male, and 26 were professional athletes. Mean follow-up was 6 years.

Outcomes were assessed using the Lysholm score, Tegner activity level score, the International Knee Documentation Committee (IKDC) scoring system, and a subjective evaluation based on a 100-point scale. Roentgenograms, MRI, or CT scans were done pre- and postoperatively.

Dr. Gobbi reported that the cause of most injuries was related to sports microtrauma (38%) and macrotrauma (21%), although 38% of patients did not report any traumatic etiology and 4% showed patellar malalignment. The most common location of injury was the medial femoral condyle (61%), and the mean defect size among study participants was 4 cm<sup>2</sup>.

Between baseline and final follow-up

the mean Lysholm scores improved from 57 to 87; the Tegner scores improved from 3 to 5; and the subjective evaluation improved from 40/100 to 70/100. At baseline, only three patients scored an A or B on the IKDC, but by final follow-up, 70% of patients scored an A or B.

Also by final follow-up, activities of daily living improved in 65% of patients while imaging studies revealed increased degenerative changes in 30% of patients.

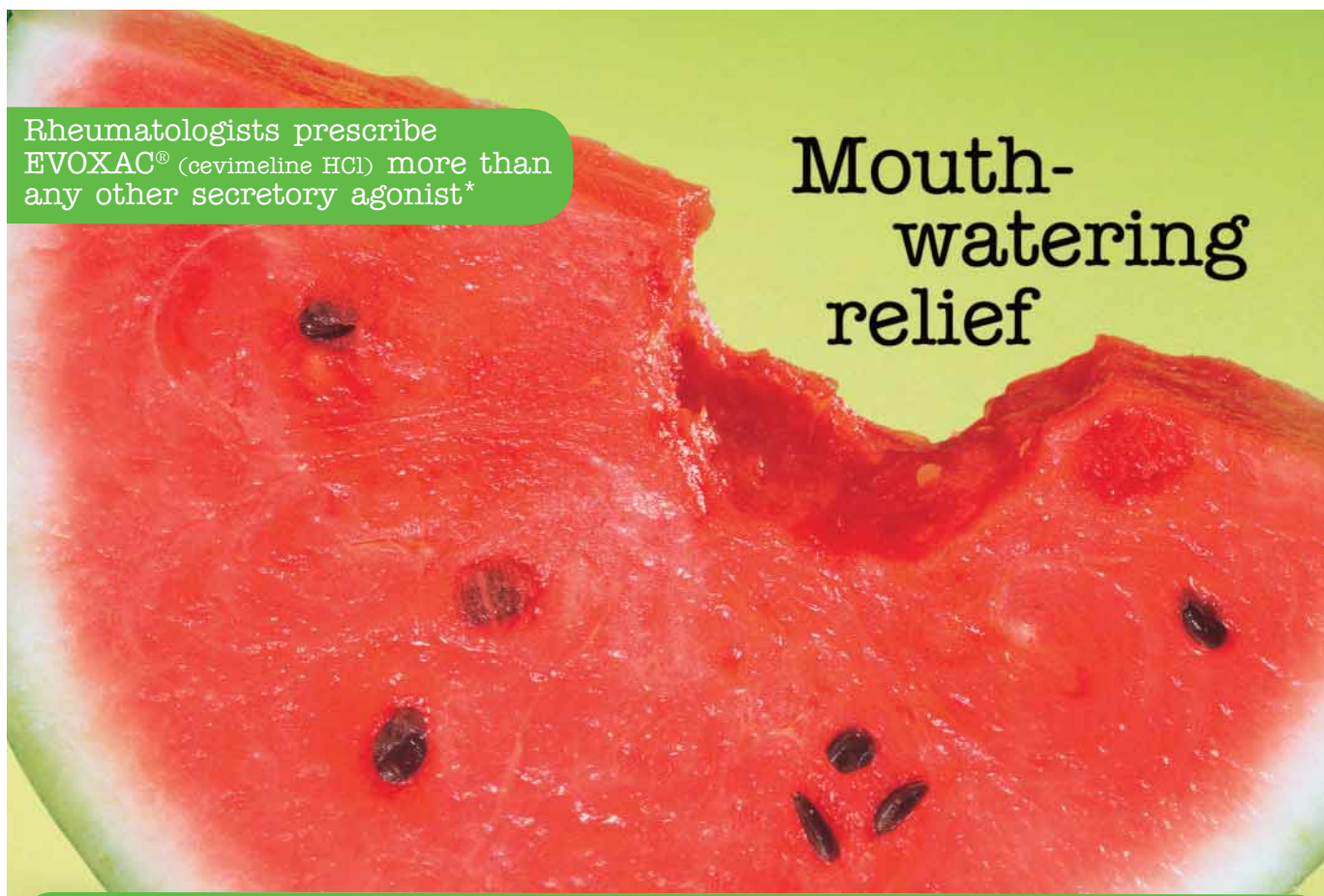
“When we analyzed the [return to]

strenuous sports activities, we found they increased to 80% in the first 2 years but then gradually decreased to 55% at final follow-up,” Dr. Gobbi added. Changing to a low-risk sport, advancing age of the study participants, work and family obligations, and the influence of degenerative joint disease may have contributed to the decline in postsurgical sports activity.

Second-look arthroscopy performed in 10 patients showed that the articular defects were covered with fibrocartilaginous

tissue at a level adjacent with normal articular surface and were firm when palpated with a probe. Biopsies from these same 10 patients showed areas of fibromyxoid tissue with differentiation, a transition zone with cartilage tissue, and initial hyaline transformation tissue.

Candidates should be evaluated by age, activity level, type of sport, type of injury, expectations, associated pathologies, likelihood of rehabilitation compliance, and the articular depth of the defect. ■



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† In 1 or more clinical trials, patients reported significant improvement for these secondary end points at various measurement intervals using a visual analogue scale (VAS) (PA0.05).

‡ Statistical significance was not observed consistently for every secondary end point at each point of measurement across all studies.

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MRI shows degeneration 6 years after microfracture surgery on chondral lesion.

COURTESY DR. ALBERTO GOBBI