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COMPARISON BETWEEN GLUCOSAMINE WITH CHONDROITIN SULFATE AND GLUCOSAMINE WITH CHONDROITIN SULFATE AND HYALURONATE FOR SYMPTOMS OF KNEE OSTEOARTHRITIS

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As part of a larger study of five supplements and placebo, exploratory comparisons of changes in symptoms of subjects with knee osteoarthritis between specific product groups were performed. Eighteen subjects took 1500 mg glucosamine HCI and 1200 mg chondroitin sulfates (GC) and seventeen subjects took 3.3 mg sodium hyaluronate (GCHA) in twelve capsules daily for approximately one million daltons. WOMAC, SF-36v2, Brief Pain Inventory measurements favored GCHA group after 4 weeks. After a one-way ANOVA (using intent-to-treat data) on all six groups indicated the presence of significant between-group differences, post-hoc comparisons of the changes from baseline between the GC and MFHA groups were performed by Student t, Mann-Whitney U, and Fisher Exact tests.

There were four dropouts in the GC and seven in the GCHA group (P=0.014 by log-transformed t test). It may be tentatively concluded that a proprietary dietary supplement formula containing glucosamine, an herbal extract and hyaluronate led to significantly larger improvements in parameters of joint health and quality of life than the combination of glucosamine and chondroitin sulfate over an eight week period.

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TISSUE GAIN AFTER PLACEMENT OF A COLLAGEN MENISCUS IMPLANT FOLLOWING PARTIAL MENISCOTOMY

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Introduction: Human meniscus do not regenerate biomechanically competent or functional tissue after partial meniscectomy, the most common arthroscopic procedure performed by orthopaedic surgeons. Loss of meniscus tissue leads to abnormal biomechanical stresses on the chondral surfaces, often leading to degenerative osteoarthritis. The purpose of this study was to determine the amount of new tissue growth in patients in a randomized clinical trial of the Collagen Meniscus Implant (CMI) after partial medial meniscectomy and placement of the CMI to fill the meniscus defect compared to partial meniscectomy alone.

Methods: Patients between 18 and 60 years of age who had undergone one to three prior partial medial meniscectomies yet had clinical symptoms of menisicus pathology were randomized either to receive the CMI or to have an additional partial meniscectomy (control). Twenty-one consecutive patients who met all inclusion criteria and had a minimum 1-year follow-up were included. There were 12 CMI and 9 control patients. At index surgery, size of the meniscus defect was measured using specially designed instruments, and the percent of meniscus loss was calculated based on actual measurements. All 12 CMI patients underwent relook arthroscopy at one year, but control patients did not have a relook. At relook, the same instrumentation was used to measure the amount of meniscus defect filled with new tissue as a result of the CMI. Percent meniscus gain was calculated by multiplying the % meniscus loss by the % defect filled, then dividing that product by the difference of 100% less the % meniscus loss.

Results: Based on direct measurements, CMI patients lost on average 77% of their native medial meniscus, thus 23% remained. The control patients lost on average 75% of their medial meniscus and had 25% remaining. There was no statistical difference between groups. It was assumed that control patients regained no new tissue over time based on historical controls. At 1-year relook, CMI patients had on average 71% of their original defect still filled by new tissue compared to no filling assumed in the controls. Based on the above formula, CMI patients averaged 292% gain in meniscus tissue compared to their original remnant. This difference was statistically significant (p=0.001) using an independent t-test.

Conclusion: The CMI supports formation of new tissue that fills the meniscus defect into which it is placed. The increased percent of meniscus gain and total amount of meniscus tissue in CMI patients after one year is highly statistically significant compared to partial meniscectomy alone.

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PHYSICAL ACTIVITY IS ASSOCIATED WITH HIGHER CARTILAGE THICKNESS IN OLDER ADULTS

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Physical activities are an especially important factor in either causation of or protection against osteoarthritis. In animal studies, physical activity has had variable effects (from trophic to delete-