

559

**CORRELATES OF LONGITUDINAL USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE AMONG PEOPLE WITH OSTEOARTHRITIS: FINDINGS FROM THE OSTEOARTHRITIS INITIATIVE**

*K.L. Lapane*<sup>†</sup>, *S. Yang*<sup>‡</sup>, *T. McAlindon*<sup>§</sup>, *C.B. Eaton*<sup>||</sup>. <sup>†</sup>*Univ. of Massachusetts Med. Sch., Worcester, MA, USA*; <sup>‡</sup>*Virginia Commonwealth Univ., Richmond, VA, USA*; <sup>§</sup>*Tufts Univ., Boston, MA, USA*; <sup>||</sup>*Mem. Hosp. of Rhode Island, Pawtucket, RI, USA*

**Purpose:** Although correlates of complementary and alternative medicine (CAM) have been described using cross-sectional study designs, data describing use patterns over time are sparse. The purpose of this study was to describe correlates of CAM usage patterns among persons with radiographically confirmed knee osteoarthritis (OA).

**Methods:** We included 2,114 participants of the Osteoarthritis Initiative with radiographic tibiofemoral knee OA in at least one knee at baseline who had five assessments completed over 4 years. Trained interviewers asked "During the past 6 months, did you use the following health supplements for joint pain or arthritis?" with separate questions for chondroitin sulfate and glucosamine (GLU/CHON). Participants also reported use of provider based CAM (e.g. acupuncture, ayurveda, naturopathy, biofeedback, homeopathy, Reiki, chiropractic, massage) and patient self-directed CAM therapies (e.g. biologically-based supplements (SAME, MSM, vitamins, herbs), biologically-based diets, biologically-based topical agents, magnet therapy, mind-body interventions (Tai Chi, Yoga, Chi Gong, or Pilates, relaxation, spiritual activities)). Correlates of treatment approach for OA considered included sociodemographic indicators, body mass index, overall measures of mental and physical well-being, and clinical indices of knee OA. Polytomous logistic regression provided adjusted odds ratio estimates (aOR) and 95% confidence intervals (CI).

**Results:** Fifty-five percent reported no use of GLU/CHON at any of the five assessments, 18.6% reported use at one or two times, 13.4% at three or four times, and 12.8% at all assessments. Relative to non-Hispanic Whites, Blacks had reduced odds of reports of GLU/CHON use on multiple assessments (aOR<sub>use 1-2 times</sub>: 0.59; (95% CI: 0.41–0.86); aOR<sub>use 3-4 times</sub>: 0.38; (95% CI: 0.23–0.61); aOR<sub>use 5 times</sub>: 0.13; (95% CI: 0.06–0.28)). Those with greater than college graduate education relative to those with < high school education had increased odds of GLU/CHON use on multiple assessments (aOR<sub>use 1-2 times</sub>: 1.55; (95% CI: 1.03–2.32); aOR<sub>use 3-4 times</sub>: 1.91; (95% CI: 1.16–3.16); aOR<sub>use 5 times</sub>: 1.69; (95% CI: 1.02–2.80)). Worst pain at baseline was inversely associated with GLU/CHON use on every assessment (WOMAC Pain aOR<sub>use 5 times</sub>: 0.69; (95% CI: 0.53–0.89)). Increased quality of life at baseline was inversely correlated with GLU/CHON use at every assessment ((KOOS Quality of Life aOR<sub>use 5 times</sub>: 0.81; (95% CI: 0.65–1.00)). Increased K-L grade tended to correlate with increased GLU/CHON use reports on multiple assessments. Patients reporting other self-directed CAM practices at baseline were more likely to report GLU/CHON use on multiple assessments ((aOR<sub>use 1-2 times</sub>: 1.94; (95% CI: 1.46–2.57); aOR<sub>use 3-4 times</sub>: 2.36; (95% CI: 1.71–3.26); aOR<sub>use 5 times</sub>: 3.15; (95% CI: 2.26–4.37)). Relative to Whites, Blacks were more likely to report self-directed CAM use on multiple assessments and less likely to report provider-based CAM use. Women were more likely to report self-directed CAM use on multiple assessments. Patients who reported multiple CAM approaches at baseline (e.g. patient-based CAM, provider-based CAM, GLU/CHON) were more likely to report use of such approaches on multiple assessments.

**Conclusions:** CAM therapies are commonly used to treat joint and arthritis pain among persons with knee OA, but reports of use over time is limited. The extent to which low use of CAM on multiple assessments is owing to lack of effectiveness or other factors remains unknown.

560

**EFFECT OF A TOPICAL CREAM CONTAINING MUCOPOLYSACCHARIDES ON KNEE FUNCTION AND PAIN INTENSITY OF PATIENTS WITH OSTEOARTHRITIS**

*I. Möller*<sup>†</sup>, *M. Cid*<sup>‡</sup>, *C. Chetrit*<sup>‡</sup>, *D. Martinez-Puig*<sup>‡</sup>. <sup>†</sup>*Inst. Poal de Reumatologia, Barcelona, Spain*; <sup>‡</sup>*Bioiberica S.A., Palafolls, Spain*

**Purpose:** To examine the effect of a topical cream consisting of mucopolysaccharides and hyaluronic acid (Hialsorb™) on knee pain and joint function in patients diagnosed with osteoarthritis (OA) of one or both knees.

**Methods:** Sixty patients diagnosed with knee OA were echographically evaluated and randomly assigned to one of 2 treatment groups: (1) Physical therapy (n=30; age 46.6±1.17) and (2) Physical therapy plus Hialsorb cream (n=30; age 46.0±0.88). Physical therapy included 20 massage sessions uniformly distributed during 60 days. Topical cream was applied twice per day during a period of 60 days on patients of group 2. Patients were tested at baseline (day 0) and at the end of the intervention (day 60). Outcomes included pain visual analogue scale (VAS) and Lequesne index.

**Results:** Echographic evaluation at baseline revealed that 83% of the patients had synovial effusion, 57% tendinopathy and 30% Baker cyst. Physical therapy alone decreased Lequesne index (37%) and knee pain (34%) at day 60 compared to baseline (p<0.01). The combination of physical therapy with Hialsorb cream reduced Lequesne index (70%) and knee pain score (62%) to a greater extent than physical therapy alone (p<0.01). At day 60 differences between groups were significant for knee pain (4.1±0.13 cm for physical therapy vs. 2.5±0.23 cm for the combination; P<0.01) and for Lequesne index (5.1±0.23 vs. 2.9±0.28 for physical therapy and the combination respectively; P<0.01). A time\*group interaction was significant for VAS (P<0.001) and for Lequesne index (P<0.001).

**Conclusions:** Topical application of Hialsorb is effective in improving the function and relieving the pain from OA of the knee.

561

**ENHANCED BIOMECHANICAL CLOSED KINETIC CHAIN THERAPY INTERVENTION IN THE REHABILITATION OF PATIENTS AFTER TOTAL HIP ARTHROPLASTY**

*Y. Kosashvili*<sup>†</sup>, *L. Yaari*<sup>†</sup>, *G. Segal*<sup>‡</sup>, *Y. Baruch*<sup>†</sup>, *S. Velkes*<sup>†</sup>, *A. Mor*<sup>‡</sup>, *R. Debi*<sup>§</sup>, *B. Bernfeld*<sup>||</sup>, *A. Elbaz*<sup>‡</sup>. <sup>†</sup>*Rabin Med. Ctr., Petah Tikva, Israel*; <sup>‡</sup>*Apos Med. and Sports Technologies, Herzliya, Israel*; <sup>§</sup>*Barzilai Med. Ctr., Ashkelon, Israel*; <sup>||</sup>*Carmel Med. Ctr., Haifa, Israel*

**Purpose:** Some patients after total Hip Arthroplasty (THA) may suffer from a limp and periarticular discomfort due to muscle weakness. Physiotherapy is important in restoring muscle strength. Evidence-based guidelines on rehabilitation after THA are scarce. We examined the immediate and longer term effect of closed kinetic chain exercises (AposTherapy) causing controlled perturbations over gait parameters after THA.

**Methods:** Thirty three patients were prospectively followed during the study. Gait parameters were measured at initial evaluation, after 15 minutes of therapy and after 3 months of treatment. SF-36 and WOMAC scores were filled by patients before treatment and after 3 months of treatment.

**Results:** Gait velocity, single limb support (SLS) and step length of the operated leg significantly improved after a single 15 minute treatment (72.9 cm/s vs. 87.6 cm/s, 33.3% vs. 35.2% of gait cycle and 45.8 cm vs. 50.2 cm, respectively, p<0.001) and furthermore after 3 months of treatment (72.9 cm/s vs. 108.5 cm/s, 33.3% vs. 38.2% of gait cycle and 45.8 cm vs. 56.7 cm, respectively, p<0.001). Forty three percent of patients had a normal gait velocity after 3 months of treatment; SF-36 and WOMAC scores significantly improved after 3 months of treatment (p<0.008).

**Conclusions:** Using a closed kinetic chain exercise implemented by a foot-worn platform is useful for patients post THA. Improvement in gait, limb functionality, stiffness and pain may be seen after a single session and may be more noticeable after 3 months of treatment.

562

**SELECTIVE RAR GAMMA ANTAGONIST LY2813631 PROTECTS AGAINST RETINOID INDUCED CARTILAGE DEGRADATION IN PRECLINICAL MODELS OF ARTHRITIS**

*B.H. Norman*, *A. Geiser*, *M. Chambers*, *T. Moore*, *S. Chandrasekhar*, *T. Page*, *T. Bleisch*, *P. Mitchell*. *Eli Lilly and Company, Indianapolis, IN*

**Purpose:** It has been shown that the natural ligand for the Retinoic Acid Receptors (RARs), All Trans Retinoic Acid (ATRA), is deleterious to articular cartilage health and is associated with the breakdown of cartilage in osteoarthritis. Additionally, it has been shown that retinoid levels are increased in the synovial fluid of OA patients. Both natural and synthetic retinoids (RAR agonists) are catabolic to cartilage, block early chondrogenesis and promote chondrocyte hypertrophy via RAR signaling through three RAR subtypes (RAR alpha, beta and gamma). It