and non-wear times was set at 25°C. Timeframes during which the temperature rose above 25°C were classified as wear time. A Wilcoxon signed-rank test was performed between the different wear times and Spearman's correlations between pain, comfort and wear time were determined.

Results: On average, patients wore the device for 143±80 h according to the form they filled out, whereas the TS measured only 83±86 h, leading to an overestimation of 72%. Patients reported an average pain level of 3±1.4 during the six weeks period and the AFO's comfort was rated with 1.9±0.3. Statistical differences were found between the wear time reported by the patients and the wear time derived from the TS ($p=0.005$). Additionally, a significant correlation between the AFO comfort and the wear time derived from the TS was found ($r = -0.81$; $p=0.001$). No significant correlation was found between pain and wear time.

Figure 1: Data set from one of the patients.

Conclusions: As can be expected, patients who found the AFO more comfortable were the ones who wore the orthosis for longer periods. The wear time recorded by the TS was significantly lower compared to the self-reports. This might be due to a social desire bias, overestimating the amount of hours of wearing the AFO as we asked the patients to wear it as often as possible. Secondly, patients might have trouble to accurately recall the amount of wear hours, thereby inducing an overestimation of wear time. As the reliability of self-reported measures seems to be questionable, such data should be interpreted with care.

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AB0801 EVALUATION OF EFFECTIVITY OF RADIOTHERAPY FOR PAIN CONTROL IN OSTEOARTHRITIS AND SOFT TISSUE PATHOLOGY

F. Aramburu, Á. Montero, R. Silvia, J. González, E. Calvo, M. Valero, C. Rubio, P. García de la Peña on behalf of Rheumatology and Radiotherapy services. *Rheumatology, HM hospitales, Madrid, Spain*

Background: Osteoarthritis and soft tissue pathology are diseases that produce important pain and disability in many patients. Some studies support that the low-dose radiotherapy may be effective in refractory diseases.

Objectives: The main objective of this study is to evaluate whether the treatment with radiotherapy is long-term effective to reduce the pain in osteoarthritis and soft tissue pathology. The secondary objective is to evaluate the analgesic requirements before and after the treatment.

Methods: A prospective and observational study was designed. 38 patients were included. 53 different pathologies were treated including knee osteoarthritis, trochanteric bursitis, calcinosis, rizartritis, pyramidal syndrome, rotatory cuff pathology and shoulder osteoarthritis, plantar fasciitis, epicondylitis, hand osteoarthritis, tibialis posterior tendonitis, ankle osteoarthritis, hip osteoarthritis and hand tendonitis. All these pathologies did not respond to conventional therapy (non steroidal antiinflammatory drugs, rehabilitation or infiltrations). Initially, the patients received a treatment of radiotherapy with a dose of 6 Gray divided in 6 sessions during 2 weeks. The patients that did not respond after 6 weeks received a second treatment with the same characteristics. The modification in Visual Analogic Scale (VAS) of pain was evaluated as well as analgesic intake before and after the treatment.

Results: No side effects were observed. 92% were women and 8% men. Mean age was 66,82, standard deviation (SD): 12,97 (42–89). 44 locations responded to one treatment and 19 needed a second one.

The mean VAS prior treatment was 7,38, SD: 1,49, (10–4). Mean VAS after the first treatment was 3,81 SD: 2,84 (9–0).

The mean VAS after the first treatment in locations that received 2 treatments was 6,65 SD: 1,46 (9–5), and mean VAS after the second one was 4,56 DE: 2,66 (8–1).

By pathology, the difference in means was: 4,8 in knee osteoarthritis (N=11), 4,78 in trochanteric bursitis (N=10), 5 in calcinosis (N=3), 5,33 rizartritis (N=8), 4 in pyramidal syndrome (N=2), 3,87 in rotatory cuff pathology and shoulder osteoarthritis (N=6), 6 in plantar fasciitis (N=1), 7 in epicondylitis (N=1), 3,22 in hand osteoarthritis (N=11), 6 in tibialis posterior tendonitis (N=2), 4 in ankle osteoarthritis (N=2), 2 in hip osteoarthritis (N=1) and 2,2 in hand tendonitis (N=5). Until November 2016, 12 patients (17 pathologies) were followed-up for 6 months. The mean VAS before treatment of these pathologies was 7,29 SD: 1,21; (9–4). After 6 months mean VAS reduced to 1,47 SD: 1,42; (5–0).

The analgesic intake was reduced in 37,98% of patients, 10,34% used the same amount and 34,48% was not known. 17,24% did not take analgesic drugs at all after treatment.

Conclusions: The treatment with low dose radiotherapy was long-term effective for reducing the pain level in our study.

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AB0802 EFFECTS OF DIETARY MAGNESIUM SUPPLEMENTATION AND INTRA-ARTICULAR MAGNESIUM SULFATE ON EXPERIMENTAL OSTEOARTHRITIS AND POTENTIAL MOLECULAR MECHANISMS BY MRNA AND LNCRNA EXPRESSION PROFILES SCREENING

G. Lei¹, C. Zeng¹, H. Li¹, J. Wei², T. Yang¹, B. Wise³, X. Ding¹, Y. Zhang¹, Y. Yang¹, Z. Deng¹, J. Li⁴, Y. Cui⁵. ¹Department of Orthopaedics; ²Health Management Center, Xiangya Hospital of Central South University, Changsha, Hunan Province, China; ³Department of Internal Medicine and Department of Orthopaedics, University of California, Davis School of Medicine, Sacramento, CA; ⁴Division of Rheumatology, Department of Internal Medicine, Rush University Medical Center, Chicago, IL, United States; ⁵International Medical Center, Xiangya Hospital, Central South University, Changsha, Hunan Province, China

Background: Epidemiological studies of ours and other groups have reported an inverse association between dietary and serum Mg with knee radiographic osteoarthritis (OA) [1–4].

Objectives: To investigate the effects of dietary magnesium supplementation and intra-articular MgSO₄ on the development of experimental rat osteoarthritis, and explore the underlying potential molecular mechanisms by mRNA and lncRNA expression profiles screening.

Methods: Rat osteoarthritis model was induced by surgery. Articular cartilage damage was evaluated by modified Mankin score system after intervention of dietary magnesium supplementation or intra-articular MgSO₄ injection. Microarray was performed to reveal alteration of expression profiles of mRNA and lncRNA after intervention of MgSO₄ on human osteoarthritis chondrocytes. Bioinformatics analyses including gene ontology analysis, pathway analysis, target gene predictions and network analysis were used.

Results: Comparing with normal diet, dietary Mg supplementation showed significantly ameliorated cartilage damage at the medial femoral condyle, lateral tibial plateau and medial tibial plateau ($P \leq 0.05$), and approaching significance at the lateral femoral condyle ($P=0.06$). All four locations exhibited mitigated cartilage damage in the intra-articular MgSO₄ group compared with intra-articular saline ($P \leq 0.05$). 1767 lncRNAs and 2558 mRNAs were upregulated while 994 lncRNAs and 1512 mRNAs were downregulated in chondrocytes with intervention of 50mM MgSO₄ compared with control group (fold change ≥ 2.0). The top 6 lncRNAs which showed the largest difference were ENST00000425914.2, ENST00000419881.1, ENST00000561231.1, ENST00000609062.1, TCONS_00029212 and ENST00000429530.1. Bioinformatics analyses indicated that the differentially expressed lncRNA target genes of chondrocyte after intervention of 50mM MgSO₄ are enriched in negative regulation of phosphatidylinositol 3-kinase signaling.

Conclusions: Both dietary magnesium supplementation and intra-articular MgSO₄ injection may exert cartilage protective effects by causing widespread changes in the profile of lncRNAs and mRNAs of chondrocytes.

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AB0803 DOES INTRA-ARTICULAR INJECTION OF PLATELET-RICH PLASMA PROVIDE CLINICALLY PREFERABLE OUTCOMES IN THE KNEE OSTEOARTHRITIS? A DOUBLE-BLIND, RANDOMIZED CONTROLLED PILOT STUDY

J. Moghimi^{1,2}, R. Ghorbani¹, H. Beiki¹. ¹Social Determinants of Health Research Center; ²Department of Internal Medicine, Semnan university of medical sciences, Semnan, Iran, Islamic Republic Of

Background: Knee osteoarthritis (OA) symptoms Improvements with platelet-

rich plasma (PRP) have been ascribed to its ability to rectify intra-articular inflammatory processes.

Objectives: The aim of this study was to determine the safety, feasibility and changes in symptom severity, sports activity, lower limb function, and function in daily living activities following intra-articular injections of PRP in mild to moderate knee OA.

Methods: In this double-blind randomized controlled pilot study, 34 patients with knee OA grade 2 or 3, from March 2013 to February 2016 were selected. Participants were randomly assigned one knee as the case and other knee was considered as control to receive three injections of either PRP or placebo. The administering doctor and the patients were blinded to group allocation. Outcomes included safety and recruitment data, 100 mm the EuroQol-visual analogue scales (EQ-VAS), the international knee documentation committee (IKDC), the Western Ontario and McMaster Universities Arthritis Index (WOMAC) and the Tegner Activity Score (TAS) at three and six months.

Results: Twenty four (100%) participants met the inclusion criteria. No treatment-related major adverse events were reported. The PRP group demonstrated significant improvements at all follow up time points in the WOMAC (3 months: $p=0.017$; 6 months: $p=0.029$, $ETA=0.601$). For the PRP group, the 11.47 mm reduction in EQ-VAS at 6 months ($p=0.040$) and the 7.35 mm at 3 months ($p=0.035$) was statistically significant improvement from baseline. The PRP group also significantly improved IKDC ($p=0.039$, $ETA=0.619$) and TAS ($p=0.028$, $ETA=0.641$) at three months. The placebo group showed improvements on only the IKDC Function at 3 months ($p=0.019$, $ETA=0.591$). There were no significant between-group differences for any of the self-reported measures at either time-point.

Conclusions: The study provides proof-of-concept evidence about the safety and feasibility of intra-articular injections of PRP necessary to appraise a larger clinical trial knee OA. Our preliminary findings also suggest PRP improves self-reported symptom severity, sports activity, and function in daily living activities, however no between-group differences were found. PRP may provide an effective and safe novel treatment for knee OA.

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AB0804 SINGLE-NUCLEOTIDE POLYMORPHISM (SNP) RS143383 GROWTH AND DIFFERENTIATION FACTOR 5 (GDF5) IN KNEE OSTEOARTHRITIS IN EGYPTIAN POPULATION

M. Hassanien¹, N.A. Mohamed², S.A. Mahrán¹. ¹Rheumatology Department; ²Medical Biochemistry, Assuit University, Assuit, Egypt

Background: Osteoarthritis (OA), is an age-related common polygenic disease characterized by the thinning and loss of the articular cartilage in synovial joints such as knees. The etiology and pathogenesis of OA is largely unknown, the single-nucleotide polymorphism (SNP) rs143383 (C/T) influencing OA susceptibility across a range of ethnic groups.

Objectives: The present study investigated to identify the association of polymorphism in GDF-5 gene with osteoarthritis in Egyptian population.

Methods: This Case control study of 100 women and 100 male ≥ 40 years that fulfilled American College of Rheumatology (ACR) for Knee OA and 100 controls recruited from the outpatient clinic of Department of Rheumatology, Assut university, Egypt. Clinical symptoms were assessed with WOMAC index and VAS for knee pain. The severity of disease was determined by radiological grades (Kellgren Lawren). Body Mass Index (BMI) was recorded. DNA isolation and genotype analysis the method of (Southam *et al.*, 2007) was followed for determining the GDF-5 gene (T/C; rs143383) polymorphism. Amplification was performed.

Results: There were weak but significant associations present between the GDF5 polymorphism and knee OA at the allele level (C vs. T: 0.85, 95% CI = 0.78–0.93) and genotype level (CC vs. TT: 0.72; CT vs. TT: 0.81; CC/CT vs. TT: 0.83; CC vs. CT/TT: 0.78) in the overall population. A stronger significant association was observed for CC vs. TT (OR = 0.83, $P < 0.001$) in comparison with other models. In males we identified a second polymorphism, located in the 3'-UTR of *GDF5*, that influenced allelic expression of the gene independent of rs143383.

Conclusions: GDF5 is an OA susceptibility gene with association between the GDF5 polymorphism and clinical symptoms of knee OA in Egyptian population.

Disclosure of Interest: None declared

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AB0805 PANLAR CONSENSUS. RECOMMENDATIONS FOR THE MANAGEMENT OF OSTEOARTHRITIS OF THE HAND, HIP AND KNEE. SHORT TITLE: PAN-AMERICAN LEAGUE OF ASSOCIATIONS FOR RHEUMATOLOGY (PANLAR) OSTEOARTHRITIS (OA) STUDY GROUP

M.J. Quintero¹, H. Riera², R. Espinosa³, R. Souto⁴, C. Rossi⁵, J.F. Molina⁶, J. Salas⁷, F. Radrigan⁸, G. Reyes⁹, L. Urioste¹⁰, S. Papasidero¹¹, A. García¹², I. Iraheta¹³, E. Nieto², R. Arape¹⁴, O. Castaneda¹⁵, J. Angulo¹⁶, I. Coimbra¹⁷, L.M. Franco¹⁸, C. Acosta¹⁹, V. Liendo²⁰, R. Chacón-Díaz², M. Vera²,

A. Reginato²¹, C.V. Caballero²², O. Rillo²³ on behalf of (PANLAR) Osteoarthritis (OA) Study Group. ¹Reumatología; ²Universidad de Los Andes, Mérida, Venezuela, Bolivarian Republic of, Mérida, Venezuela, Bolivarian Republic Of; ³Reumatología, Instituto Nacional de Rehabilitación, Ciudad de México, Mexico; ⁴Cátedra de Reumatología de la Facultad de Medicina de la Universidad de la Republica; ⁵Cátedra de Reumatología de la Facultad de Medicina de la Universidad de la Republica, Montevideo, Uruguay; ⁶Rheumatology and the Arthritis Clinical Research Unit at Medcarte, Medellín; ⁷Grupo de Reumatólogos del Caribe, Barranquilla, Colombia; ⁸Universidad Católica de Chile, Santiago, Chile; ⁹Servicio de Reumatología, Hospital Quirúrgico 10 de Octubre, Cerro, la Habana, Cuba; ¹⁰Universidad Católica San Pablo, Bolivia, Bolivia, Plurinational State Of; ¹¹Servicio de Reumatología del Hospital General de Agudos Dr. E. Tornú, Buenos Aires, Argentina; ¹²Facultad de Medicina, Universidad Francisco Marroquín; ¹³Facultad de Medicina, Universidad Francisco Marroquín, Ciudad de Guatemala, Guatemala; ¹⁴Centro Clínico la Isabela, Carabobo, Venezuela, Bolivarian Republic Of; ¹⁵Universidad Peruana de Ciencias Aplicadas; ¹⁶Universidad Nacional Mayor de San Marcos, Peru, Peru; ¹⁷Universidade Estadual de Campinas, Brasil, Brazil; ¹⁸Instituto de Urología, Valencia; ¹⁹Complejo Hospitalario Universitario "Ruiz y Páez", Ciudad Bolívar; ²⁰Unidad de investigación Reumatológica. Clínica Félix Boada., Caracas, Venezuela, Bolivarian Republic Of; ²¹Division of Rheumatology, The Warren Alpert School of Medicine., Providence, United States; ²²Universidad de la Sabana, Barranquilla, Colombia; ²³Hospital Pirovano, Buenos Aires, Argentina

Background: This consensus derives from a previous study of Demographic and Clinical Characteristics by the PANLAR OA study group, reporting significant differences in handling these patients and in which it was evident the need of reaching an agreement in the management of hand, hip and knee OA in Latin America (2)

Objectives: The aim is to update the recommendations for the treatment of hand, hip and knee OA by agreeing on key propositions relating to the management of hand, hip and knee OA, identifying and critically appraising research evidence for the effectiveness of the treatments and by generating recommendations based on the available evidence and expert opinion.

Methods: Recommendations were developed by a group of 40 specialists made up of rheumatologists and members of other medical disciplines. A systematic review of articles, meta-analyses and guidelines for the management of hand, hip and knee OA published from 2008 and January 2014 was done. The level of evidence and strength of recommendation were classified according to the Jadad scale (3). The level of agreement was established through a Delphi technique.

Results: Both "strong" and "conditional" recommendations are given for management of hand, hip and knee OA and non-pharmacological, pharmacological and surgical modalities of treatment are presented according to the different levels of agreement.

Conclusions: These recommendations are based on the consensus of clinical experts from a wide range of disciplines considering the available evidence, while balancing the benefits and risks of non-pharmacological, pharmacological and surgical treatment modalities. It is hoped that these recommendations will be utilized by healthcare providers involved in the management of patients with hand, hip and knee OA.

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AB0806 THE EFFECT OF REPETITIVE ACTIVE RANGE OF MOTION VERSUS CONTINUOUS PASSIVE MOTION ON EARLY FUNCTIONAL OUTCOMES AFTER PRIMARY TOTAL KNEE REPLACEMENT

M. Erduran¹, M. Eymir², B. Ünver². ¹Faculty of Medicine Surgery Medicine Department of Orthopaedics and Traumatology, Dokuz Eylül University, Izmir, Turkey; ²School of Physical Therapy and Rehabilitation, Dokuz Eylül University, Izmir, Turkey, Izmir, Turkey

Background: Continuous passive motion (CPM) is a common procedure in total knee replacement (TKR), but its effectiveness is controversial at early stage after TKR. Some studies have claimed that CPM promoting rapid postoperative recovery and the range of motion (ROM). However, some studies have demonstrated that CPM have any benefit on ROM, length stay of hospital and postoperative recovery (1, 2). Several studies have examined the use of CPM, but there is not any study that compared the effect of repetitive active range of motion (AROM) vs. CPM on early functional outcomes after TKR.

Objectives: The aim of this study was to compare the effect of AROM vs. CPM on early functional outcomes after TKR.

Methods: The study group consisted of 71 patients, who underwent primary TKR because of arthrosis were consecutively allocated to a AROM group (n=40, with