groups ($p < 0.05$) without any statistically significant difference. Responders in the first group in the end of the year were 40% (10/25) and 60% (15/25) in group 1 and group 2, respectively ($p > 0.05$). In the end of the follow-up period HAQ-DI did only statistically improve among patients in group 2.

Fig.1. Mean change in 100-mm VAS values for pain over time in both groups

Conclusion: If maximal symptomatic relief is our primary goal, it would be logical to choose a two-injection regimen. However, if we take into account the financial aspect, we may be satisfied with a single injection of highly cross-linked HA over a year.

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AB0792 CURCUMIN IN OSTEOARTHRITIS TREATMENT: THE PRESENT STATE OF EVIDENCE

¹Maria Goulart¹, Daniela Partar², Luis Cunha³, Stevin Zung³. ¹Ache Laboratories, Medical, São Paulo, Brazil; ²Ache Laboratories, São Paulo, Brazil; ³Ache Laboratories, medical, São Paulo, Brazil

Background: Osteoarthritis (OA) is a degenerative disease of the joint occurring in elderly population. According to World Health Organization, its worldwide prevalence ranges from 11.8% to 12.7%. Since it is known that OA has an inflammatory cause, with IL-1 β and TNF- α being the key cytokines that drive the production of inflammatory mediators and matrix-degrading enzymes, the compounds with anti-inflammatory properties are targeted as therapeutic options for osteoarthritis treatment. Curcumin is a plant-derived compound extracted from the rhizomes of turmeric (*Curcuma longa*). It has been demonstrated as an effective anti-inflammatory and antioxidative agent. In vitro studies have shown that curcumin can block the activation of NF- κ B system in the chondrocytes. Therefore, it prevents the apoptosis of chondrocytes, suppress the release of proteoglycans and metal metalloproteases and expression of cyclooxygenase, prostaglandin E-2, and inflammatory cytokines in chondrocytes. Besides its influence on inflammatory markers, clinical trials also demonstrated curcumin's effects in pain and function in patients with osteoarthritis.

Objectives: The purpose of this paper is to critically review evidences regarding the role of curcumin in osteoarthritis treatment.

Methods: PubMed/MEDLINE, Lilacs, and SCIELO databases were searched using the terms "curcumin" AND "osteoarthritis" without imposing

time limitations. The search was limited to humans and to the English and Portuguese languages. Studies that met the following inclusion criteria were included in the review: 1) clinical trials that evaluated the effects of curcumin on osteoarthritis. The selection phase involved a review of abstracts and an examination of the full text based on the eligibility criteria and the last search was conducted on January 2019.

Results: Overall, 9 clinical trials involving a total of 797 patients met the inclusion criteria. The studies have a degree of heterogeneity concerning the dosage, treatment duration, objectives and endpoints, but the main objectives were to evaluate the efficacy and safety of curcumin in osteoarthritis treatment. All studies have shown a beneficial effect of curcumin supplementation in the treatment of osteoarthritis, mainly in reduction of pain, stiffness, improvement of physical function, decrease the use of NSAIDs and other painkillers. Results also showed a decrease on inflammatory markers

Conclusion: The studies demonstrated that curcumin is clinically effective as a long term adjuvant treatment of osteoarthritis further to an excellent tolerability. However, large and well-designed randomized controlled trials are warranted to confirm the use of curcumin in osteoarthritis treatment.

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AB0793 LONG-TERM USE OF AMTOLMETIN GUACIL IN PATIENTS WITH OSTEOARTHRITIS, RHEUMATOID ARTHRITIS AND ANKYLOSING SPONDYLITIS

Andrey Karateev, Evgeny Nasonov, V. A. Nasonova Research Institute of Rheumatology, Moscow, Russian Federation

Background: Long-term use of nonsteroidal anti-inflammatory drugs (NSAIDs) is used to control of chronic pain in osteoarthritis (OA), rheumatoid arthritis (RA) and to prevent the progression of ankylosing spondyloarthritis (AS). Amtolmetin guacil (AMG), which has a low risk of gastrointestinal complications, may have advantages for long-term use.

Objectives: To evaluate the effect and safety of long-term use of AMG.

Methods: AMG 600-1800 mg/day was prescribed to 442 patients with OA (60.6 + 10.2 years, women 88.7%), 126 with RA (55.0 + 14.0 years, women 84.2%) and 73 with the AS (47.0 + 12.0 years, women 30.0%). The primary end point was the dynamics of pain on a numerical rating scale (NRS), additional for OA - WOMAC pain and HAQ, for RA - DAS28-CRP, for AS - BASDAI, BASFI and ASDAS-CRP. The result of treatment was evaluated on 3 consecutive visits after 3 months (9 months of treatment).

Results: After 9 months 65.2% of OA patients, 75.3% of RA patients, and 82.2% of AS patients continued to take AMG. In end of study, the median of pain decreased with OA from 5.6 [4.1–6.9] to 3.4 [1.7–5.1], with RA from 5.8 [4.0–7.5] to 3.4 [2.0–4.8], with AS from 5.8 [4.2–7.5] to 3.1 [1.5–5.0] NRS ($p < 0.001$). In OA WOMAC pain decreased from 127 [24–159] to 13.7 [14–40], $p < 0.001$, HAQ from 0.54 $\pm$ 0.44 to 0.34 $\pm$ 0.26, $p < 0.001$. With RA, the average value of DAS28 decreased from 4.81 + 1.18 to 4.30 + 1.24, $p < 0.05$. In AS, the median BASDAI index decreased from 4.5 [1.0–8.0] to 3.0 [0–8.0], $p < 0.001$. The number of AS patients with high activity on the ASDAS-CRP index (> 3.5) decreased from 76.9% to 25.8%, $p < 0.001$. The BASFI index has not changed. 77.9% of patients with OA, 77.0% of patients with RA, and 74.5% of patients with AS were satisfied with the results of AMG treatment.

AMG tolerability was good. 15-25% patients had mild dyspepsia. Discontinuation of therapy due to side effects was only in 6 patients (0.93%). The development or worsening of arterial hypertension, as well as other cardiovascular complications, was not observed.

Conclusion: AMG is an effective, well-tolerated NSAID, which is appropriate for long-term treatment of OA, RA and AS.

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AB0794 PATIENTS GENOTYPE AND OA TREATMENT EFFICACY

Liudmyla Smolina¹, ¹Liudmyla Khimion^{*}, Olexandr Burianov², Nataliia Kicha¹, Tetiana Sytiuk¹, Taras Omelchenko². ¹Shupyk National Medical Academy of Postgraduate Education, Kyiv, Ukraine; ²Bogomolets National Medical University, Kyiv, Ukraine

Background: it is known that some genes (FDPS, LCT, VDR) which determine the calcium, vitamin D and lactate metabolism may have impact on osteoarthritis (OA) development and course, and thus, has a possible influence on OA treatment efficacy.

Objectives: To determine the influence of genetic factors (genotyping of FDPS, LCT, VDR) on the efficacy of standard and modified treatment (with use of the platelet autologous plasma (PAP) in the early stages of knee OA.

Methods: WOMAC index and the frequency of genotype variants for the FDPS, LCT, and VDR genes were studied in 96 patients (57 women, 38 men, 41.7 ± 1.2 years old) with primary knee OA (X-ray stage I-II). All patients had OA exacerbation with no clinical evidence of synovitis. Enrolled patients were divided into 2 groups: the first group consisted of 49 patients (27 women, 22 men, mean age 41.7 ± 1.2 years) who agreed to receive standard OA treatment (NSAID, exercises, orthopedic devices – as needed) and 3 intra-articular PAP injections (2 courses in 12 month, plasma volume 12-15ml/course, total platelet count per injection $1260,24 \pm 22,1 \times 10^9$). The second group - 47 patients with OA who received standard treatment. Both groups were comparable by age, gender, body mass index and initial WOMAC. Genetic parameters and its influence on OA course and treatment efficacy was analyzed during 12 months.

Results: The earliest age (37.2 ± 2.01 years) of clinical manifestation of knee OA was connected to homozygous genotype variants: LCT (relative risk 6.3:1), FDPS (relative risk 6.5:1) and VDR (relative risk 6.8:1). The best positive WOMAC changes was determined in patients with the CC genotype of LCT both in first and second groups. The WOMAC changes showed lower treatment efficacy in patients with CC genotype of FDPS and VDR in both groups, but results of patients who received PAP were better and their remission was longer (in 1.7 times) than in the standard treatment group.

Conclusion: age of knee OA clinical manifestation and the treatment efficacy (both standard and with the use of platelet autologous plasma) has genetic predisposition.

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AB0795 IMPACT OF PRIMARY HAND OSTEOARTHRITIS ON MICROSTRUCTURE AND BIOMECHANICS IN FINGER JOINTS

David Simon¹, Koray Tascilar¹, Sarah Unbehend¹, Sara Bayat¹, Timo Meinderink¹, Andreas Berlin^{1,2}, Jürgen Rech¹, Axel Hueber^{1,3}, Georg Schett¹, ¹Arnd Kleyer^{*}.

¹Friedrich-Alexander University Erlangen-Nuremberg (FAU) and Universitätsklinikum Erlangen, Department of Internal Medicine 3, Rheumatology and Immunology, Erlangen, Germany; ²Universitätsklinikum Würzburg, Würzburg, Germany; ³Klinikum Bamberg, Bamberg, Germany

Background: Primary hand osteoarthritis (HOA) is a heterogeneous disease that is associated with erosive and osteoproliferative changes of the finger joints and progressive functional impairment. Despite these severe changes the effect of HOA on bone mass, microstructure and biomechanics in the affected skeletal regions is largely unknown.

Objectives: To study the effect of HOA on bone microstructure, density and biomechanical properties using high-resolution peripheral quantitative computed tomography (HR-pQCT) of the finger joints and radius.

Methods: HOA patients and healthy controls (HC) underwent HR-pQCT scans of the distal radius and 2nd metacarpal (MCP 2) head. Total, trabecular and cortical volumetric bone mineral densities (vBMD) as well as microstructural and biomechanical properties (failure load) were determined. Failure load and scaled multivariate outcome matrices from distal radius and 2nd metacarpal (MCP 2) head measurements were analyzed using multiple linear regression adjusting for age, sex and functional status and reported as adjusted z score differences for total and direct effects.

Results: 105 subjects were included (76 HC/29 HOA). After adjustment, HOA was associated with significant changes in the multivariate outcome matrix of the MCP 2 head ($p < 0.001$) explained by an increase in cortical vBMD ($\Delta z = -1.07$, $p = 0.02$) and reduction in the trabecular vBMD ($\Delta z = 0.7$, $p = 0.09$). Distal radius analysis did not show an overall effect of HOA however there was a gender-study group interaction explained by reduced trabecular vBMD in males ($\Delta z = 1.23$, $p = 0.02$). HOA was associated with lower failure load [-514 N (95%CI: -1025 , -2), $p=0.05$].

Conclusion: HOA is associated with reduced trabecular and increased cortical bone mineral density and a reduction in radial bone strength. Impaired mobility might be an explanation for this reduction. These results underline the clinical importance of HOA-related functional impairment and indicate that HOA patients should be treated with awareness of increased fracture risk and antiosteoporotic treatment.

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AB0796 DIFFERENCES AND SIMILARITIES OF THE BONE-CARTILAGE UNIT IN PATIENTS WITH PRIMARY OSTEOARTHRITIS AND SECONDARY OSTEOARTHRITIS CAUSED BY RHEUMATOID ARTHRITIS

^{1,2}Rasmus Klose-Jensen^{*}, Anne Friesgaard Christensen³, Louise Brøndt Hartlev^{1,4}, Lene Warner Thorup Boel⁵, Mogens Berg Laursen⁶, Kresten Krarup Keller^{1,7}, Ellen Margrethe Hauge^{1,2}. ¹Aarhus University Hospital, Department of Rheumatology, Aarhus, Denmark; ²Aarhus University, Department of Clinical Medicine, Aarhus, Denmark; ³Lillebaelt Hospital, Department of Internal Medicine, Vejle, Denmark; ⁴Randers Regional Hospital, Department of Clinical Medicine, Randers, Denmark; ⁵Institute of Forensic Medicine, Aarhus University, Aarhus, Denmark; ⁶Aalborg University Hospital, Orthopaedic Surgery Research Unit, Aalborg, Denmark; ⁷Silkeborg Regional Hospital, Department of Clinical Medicine, Silkeborg, Denmark

Background: Despite distinct aetiologies of joint diseases, the osteoarthritic end-stage of primary osteoarthritis and rheumatoid arthritis are described using similar radiological features. However, primary and secondary osteoarthritis may be different at the bone-cartilage unit depending on the pathogenesis.

Objectives: The main purpose was to investigate the histological differences in the bone-cartilage unit of the hip joint in patients with primary osteoarthritis and patients with secondary osteoarthritis due to rheumatoid arthritis.

Methods: Femoral heads were obtained during arthroplasty from 12 patients with primary osteoarthritis and six patients with secondary osteoarthritis due to rheumatoid arthritis. Twelve femoral heads from healthy age- and sex-matched subjects were obtained post-mortem. Femoral heads were investigated, using stereological methods to provide unbiased quantitative data. The femoral head, articular cartilage, calcified cartilage, subchondral bone, and osteophytes were measured.