Objectives: To evaluate the association between inflammatory markers in synovial fluid with the different features of radiographic severity in patients with KOA.

Methods: Cross-sectional study of 114 female patients aged 50-85 with symptomatic primary KOA with significant joint effusion (>4 mm at midline patellar line) confirmed by ultrasound. The following information was collected: age, KOA symptoms duration, body mass index; plain standing knee Rx in semi-flexion were evaluated for radiographic severity by modified OARS atlas evaluating separately osteophytes (OPH) and joint space narrowing (JSN). The OPH score was obtained searching for marginal osteophytes in both medial and external femoral condyles and tibial plateaus, scoring 0 to 3 in each quadrant, for a total score ranging from 0-12. Due to the high number of different scores obtained, and sometimes with a low number of patients, we grouped osteophytes scores 1-2 as mild, 3-6 as moderate and seven or more as severe osteophyte count. The JSN score was calculated in both medial and lateral knee compartments, grading the joint space 0 to 3 in each one, for a total score ranging from 0 to 6. A JSN score of 0 was considered as normal, 1-2 as moderate and 3 or more as high JSN severity. Five inflammatory markers: TNF alpha, high sensitivity C-reactive protein (hsCRP), interleukin 6 (IL-6), interleukin 8 (IL-8) and calprotectin were measured by ELISA following manufacturer recommendations for synovial fluid dilutions. A comparison between medians of the three groups was carried out and a multivariate analysis controlled by age, symptom duration, BMI and all five inflammatory markers were performed.

Results: A significant association for symptom duration and synovial IL8 was observed for osteophytes ($p<0.0001$ and $p<0.05$, respectively), which remained after adjustment ($p=0.002$ and $p=0.037$, respectively). Regarding symptom duration, the differences were related to high severity osteophyte index, compared to moderate or low stages ($p=0.0005$ and $p=0.002$, respectively), while for IL-8 the differences were associated to a low OPH severity index compared with a moderate osteophyte score ($p=0.011$), with IL-8 levels approximately 33% less than the moderate OPH score ($p=0.011$).

For JSN, in the adjusted analysis, patients with a high JSN score had synovial IL-8 levels of 40% more than those with JSN 0 ($p=0.035$), while no differences were found between the moderate JSN score and the other two degrees. Regarding hsCRP, 30% higher levels were found in patients with a JSN moderate degree compared with JSN 0 ($p=0.033$), while no significant differences were observed between severe and the other two degrees.

Conclusion: Interleukin-8 IL 8 was the inflammatory marker associated to radiographic severity as evaluated by osteophyte count and joint space narrowing score on plain radiography in patients with knee osteoarthritis.

Disclosure of Interests: Silvia Garcia-Cirera: None declared, Joan Calvet: None declared, CRISTOBAL ORELLANA: None declared, Noemí Navarro: None declared, Maria Garcia Manrique de Lara: None declared, Jordi Gratacos-Masmitja Grant/research support from: Pfizer Inc, Consultant for: Pfizer Inc, Speakers bureau: Pfizer Inc

DOI: 10.1136/annrheumdis-2019-eular.8139

AB0804

OSTEOARTHRITIS (OA) PATIENTS WITH LOW BASELINE MULTIDIMENSIONAL HEALTH ASSESSMENT QUESTIONNAIRE/ROUTINE ASSESSMENT OF PATIENT INDEX DATA (MDHAQ/RAPID3) SCORES FOR PAIN, PATIENT GLOBAL ASSESSMENT AND MORNING STIFFNESS ARE SIGNIFICANTLY MORE LIKELY TO IMPROVE OVER THE NEXT 6 MONTHS

Isabel Castrejon, Mariam Riad, Joel Block, Theodore Pincus. Rush University Medical Center, Chicago, United States of America

Background: The course of osteoarthritis (OA) is highly variable; up to 50% of patients show little progression over many years, while other patients show rapid progression. Relatively little is known about the clinical variables that might affect prognosis for progression.

Objectives: To analyze OA patient status in routine care at baseline according to baseline candidate prognostic multidimensional health assessment questionnaire (MDHAQ) variables, and 6 months later as improved, worsened or similar according to the same variables.

Methods: All patients complete an MDHAQ/RAPID3 (routine assessment of patient index data) at all visits prior to seeing the rheumatologist at an academic site. The 2-page MDHAQ/RAPID3 includes 0-10 scores for physical function (FN), and visual analog scales (VAS) for pain (PN) and patient global assessment (PATGL), compiled into a 0-30 RAPID3, as well as a 0-10 fatigue VAS, 0-48 self-report painful joint count, 0-60 symptom checklist, and minutes of morning stiffness. OA patients were classified into 3 groups, based on change in RAPID3 ≥ 3.8 , the minimal

clinically important improvement (MCII), from baseline to 6-month follow-up (range 3-9 months), as >3.8 , <3.8 , or within 3.8 units. Statistical significance was studied with one-way analysis of variance (ANOVA) and chi square.

Results: Among 173 OA patients, 22 (13%) were improved, 95 (55%) unchanged, and 56 (32%) worsened 6 months later. The 3 groups did not differ significantly in age, gender, ethnicity, educational level or BMI (Table). Patients who improved compared to those who were unchanged or worsened had significantly lower baseline RAPID3, pain and patient global VAS, and morning stiffness. The patients who improved also had lower, but not statistically significant, physical function score and fatigue VAS. No differences were seen among the 3 groups in numbers of symptoms or self-report painful joint counts (Table).

Abstract AB0804 Table 1. MDHAQ demographic and clinical variables at baseline of 173 osteoarthritis (OA) patients according to level of improvement 6-months later

	Groups according to RAPID3 difference from baseline to 6 m			P
	WORSE (diff. <-3.8)	SAME (diff. -3.8 to 3.8)	IMPROVED (diff. >3.8)	
N (%)	56 (32%)	95 (55%)	22 (13%)	
Demographics				
Age (years), mean (SD)	66.3 (10.4)	65.6 (10.3)	67.4 (13.1)	0.77
Female, %	96%	93%	79%	0.06
BMI, mean (SD)	33.6 (7.3)	32.7 (8.5)	32.5 (5.6)	0.88
Obese, %	65%	61%	54%	0.40
% Black	48%	44%	42%	0.18
Education (years), mean (SD)	13.4 (3.8)	13.9 (3.8)	13.2 (4.1)	0.76
Clinical Variables mean (SD)				
Function (0-10)	3.3 (1.9)	2.9 (1.9)	2.3 (1.7)	0.10
Pain VAS (0-10)	7.6 (1.7)	6.9 (2.3)	5.1 (2.8)	<0.001
Patient global VAS (0-10)	6.9 (2.2)	5.7 (2.6)	3.7 (2.9)	<0.001
RAPID3 (0-30)	17.4 (5.5)	15.2 (7.0)	10.2 (5.7)	0.004
Fatigue VAS (0-10)	5.6 (3.5)	4.9 (3.3)	4.8 (3.6)	0.59
Symptom checklist (0-60)	10 (8)	13 (8)	12 (10)	0.20
Self-report painful joint count (0-48)	13 (11)	12 (9)	12 (12)	0.92
Morning Stiffness, minutes	32.7 (37.5)	53.1 (50.5)	14 (15.1)	0.010

Abbreviations: VAS= visual analog scale; RAPID3= routine assessment of patient index data; BMI= body mass index; statistically significant in bold.

Conclusion: OA patients who were improved over 6 months according to RAPID3 had significantly lower baseline scores for RAPID3, pain, patient global assessment, and morning stiffness. It may be of value to stratify patients in clinical trials, other clinical research, and routine clinical care according to these variables.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.5902

AB0805

WHAT FACTORS AFFECT THE RESULT OF LONG-TERM ANALGESIC THERAPY FOR OSTEOARTHRITIS? DATA FROM A MULTICENTER OPEN STUDY OF ORAL AVOCADO/SOYBEAN UNSAPONFABLES EFFECTIVENESS

Elena Pogozheva, Andrey Karateev, Alexander Lila, Vera Amirdzhanova, Ekaterina Filatova. V.A. Nasonova Research Institute of Rheumatology, Moscow, Russian Federation

Background: Symptomatic slow-acting drugs for OA (SYSADOAs) and oral nonsteroidal anti-inflammatory drugs (NSAIDs) play a central role in the pharmacological management of osteoarthritis (OA). Factors affecting the effectiveness of OA therapy should be taken into account.

Objectives: to identify factors affecting the effectiveness of long-term analgesic therapy in patients with OA.

Methods: the study included 6448 patients with knee OA (mean age 57.8 ± 10.2 years, 70.9% women), with pain level ≥ 40 mm VAS. All patients received oral avocado/soybean unsaponfables (ASU) 300 mg/day within 3 months and ketoprofen lysine salt (KLS) 320 mg/day within 2 weeks at the beginning of the study. A 100 mm visual analog scale (VAS) was used to assess pain intensity. The result of treatment was evaluated on a scale of 0-5 points, where 0 – no effect, 5 - excellent effect. The criteria for a "good response" to therapy were: pain reduction $\geq 50\%$ and treatment result ≥ 4 points. The value of the studied factors was determined using odds ratio; 95% confidence interval (OR; 95% CI).

Results: After 3 months of therapy the pain level decreased from 63.7 ± 12.0 mm to 14.2 ± 11.7 mm. A good response to treatment was noted in 87.4% of patients. Sex, body mass index ≥ 30 kg/m², type 2 diabetes, poor effect of NSAIDs and SYSADOAs in history did not affect the

result. The effectiveness of treatment was less in patients >65 years (OR 0.418; 95% CI 0.342-0.509, $p<0.001$), OA stage ≥ 2 by Kelgren-Lawrence (OR 0.556; 95% CI 0.298-0.738, $p<0.001$), with rest pain (OR 0.690; 95% CI 0.596 - 0.800, $p<0.001$), synovitis (OR 0.780; 95% CI 0.673-0.900, $p=0.001$), and sensory symptoms such as burning, pain cold, electric shocks (OR 0.530; 95% CI 0.458-0.613, $p<0.001$).

Conclusion: the ASU and KLS combination allows to achieve successful pain control in OA. A number of factors: age >65 years, OA stage ≥ 2 by Kelgren-Lawrence, rest pain, synovitis, and sensory symptoms are associated with the worst result of treatment.

Disclosure of Interests: Elena Pogozheva: None declared, Andrey Karateev: None declared, Alexander Lila Speakers bureau: Pfizer, Inc., MSD, Novartis, AbbVie Inc., Celgen Corporation, Biocad, Janssen, UCB, Inc., Vera Amirdzhanova: None declared, Ekaterina Filatova: None declared
DOI: 10.1136/annrheumdis-2019-eular.3933

AB0806 EFFICACY MANAGEMENT AND ADHERENCE EVALUATION OF DICLOFENAC IN THE TREATMENT OF KNEE OSTEOARTHRITIS PAIN

Yudian Qiu, Jianhao Lin, Hu Li, Yunfei Hou. *Inst. of Arthritis, Peking Univ. People's Hosp., Beijing, China*

Background: The incidence of knee osteoarthritis is increasing day by day. The accompanying pain has seriously affected people's quality of life. No relevant researches have studied the relationship between pain relief and adherence after taking NSAIDs in outpatients.

Objectives: To investigate the effect of diclofenac on pain control of knee osteoarthritis and the relationship between pain relief and medicine adherence. To evaluate the pain relief rate of patients with different initial pain.

Methods: 120 patients with knee osteoarthritis were recruited from the outpatient department of osteoarthritis, Peking University People's Hospital. The population was randomly divided into the experimental and control group. The baseline and follow-up contents were interviews including socio-demographic factors, evaluation of knee pain, WOMAC and MMAS-8 questionnaire. The experimental group was given regular follow-up and medication advice, while the control group was only given observational records at the middle and late stages. SPSS25.0 nonparametric T test and one way ANOVA were used to evaluate the efficacy of diclofenac in relieving knee osteoarthritis pain and the relationship between pain relief and adherence.

Results: A total of 120 patients with knee osteoarthritis at baseline were randomly enrolled and 108 patients were followed up. 55 patients in the experimental group and 53 patients in the control group (1) The 2-week adherence of test group/control group was 86.38%/64.78% ($P<0.01$), the 6-week adherence of test group/control group was 75.24%/35.22% ($P<0.01$). The 2-week and 6-week adherence of test group and control group were significantly different ($P=0.015$ and $P<0.01$). (2) The pain relief rate at 2 and 6 weeks in the experimental group was 67.56% and 69.41%, respectively, the pain relief rate was significantly higher than baseline ($P<0.01$), but there was no significant difference between the two groups ($P=0.739$). The pain relief rates at 2 and 6 weeks in the control group were 46.51% and 29.03% and was significantly higher than baseline ($P<0.01$), there was a significant difference between the two groups ($P<0.01$). In the evaluation of 2 and 6 weeks, the pain relief rates in the experimental group were significantly different from those in the control group ($P<0.01$). (3) The initial pain scores of different degrees did not affect the adherence and pain relief rates in the experimental group. In the control group, the 2-week adherence of severe pain patients was higher than that of mild and moderate pain patients ($P<0.01$), but the 6-week follow-up adherence shows no significant difference in patients with different degrees of initial pain ($P=0.073$), the 6-week adherence of patients with moderate/severe pain (38.07%/42.6%) was significantly different from the 2-week adherence (68.34%/84.77%) ($P<0.01$), the 6-week pain relief rate (18.46%/29.72%) in patients with mild/moderate pain was lower than the 2-week pain relief rate (48.72%/47.44%) ($P=0.052/P<0.01$). (4) The patients with better adherence have the higher pain relief rate ($P<0.01$).

Conclusion: For patients suffering from knee osteoarthritis pain, diclofenac 150 mg/day for 6-week is recommended. Regular follow-up can improve

adherence significantly, increased adherence can improve the pain relief rate significantly, the pain relief rate may not be related to the patient's initial pain score. It is suggested that clinical workers should supervise the medication of patients with knee osteoarthritis and make regularly follow up.

REFERENCES

- [1] da Costa BR, Reichenbach S, Keller N, et al. Effectiveness of non-steroidal anti-inflammatory drugs for the treatment of pain in knee and hip osteoarthritis: a network meta-analysis. *Lancet* 2016;387:2093-105

Acknowledgement: Thanks for the support from the outpatient department of Peking University People's Hospital.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.7289

AB0807 FOLLOW-UP OF PATIENTSWITH HIP OSTEOARTHRITIS WHO RECEIVED VISCOSUPPLEMENTATION: HOW NEW TECHNOLOGIES CAN HELP

Mariaeva Romano, Laura Belloli, Elisa Verduci, Cinzia Casu, Valeria Campanella, Marina Muscarà, Davide Antonio Filippini, Emanuela Schito, Maria Di Cicco, Oscar Massimiliano Epis, Samsung Electronic Italia: M.Cammalleri, G.Locatelli MDApp srl, Y.Cardillo, A.Colombini. *Grande Ospedale Metropolitano Niguarda, Reumatologia, Milano, Italy*

Background: Digital health innovations have opened up several opportunities to help patients with rheumatologic conditions and their treating clinicians in improving routine healthcare.

Objectives: To evaluate the applicability of a wearable smartwatch for monitoring patients with hip osteoarthritis who received viscosupplementation. Samsung Electronics Italia and MDApp srl supported the present study.

Methods: Consecutive patients with hip osteoarthritis who received viscosupplementation with hyaluronic acid between November 2017 and May 2018 were enrolled in this observational study. All patients gave their informed consent. A Samsung Gear smartwatch was given to each patient and was worn during the day for measuring daily steps, walking distance, and mean velocity. Patients were asked to wear the smartwatch starting from one week before infiltration (T0), until two weeks before (T1). Patients were assessed with Lequesne index and WOMAC score at T0 and T1.

Results: Overall, 24 patients (7 male and 17 female, mean age 44 years-old) were enrolled. Of these, 70% has worn the smartwatch for most of the time (range 90-100%). An improvement of velocity (45%), an increase of daily steps (29%), and walking distance (25%) were seen. Similarly, Lequesne index and WOMAC score were consistent with subjective improvement. Most of the patients (95%) declared to be satisfied with this digital health study.

Conclusion: Samsung smartwatches proved to be an effective tool for tracking and recording medical parameters linked with perceived general health. Health technologies are more than an accessories and could be useful in chronic musculo-skeletal diseases because they allow to ease remote diagnosis and to monitor patients' symptoms and clinical response. Telemedicine could fill the gap between patients and healthcare, with a reproducible and objective tool, enhancing patients' engagement with the treatment plan. The high patients' satisfaction further support the use of digital health technology.

REFERENCE

- [1] Kataria S, Digital Health: a new dimension in rheumatology patient care. *Rheumatol Int.* 2018

Disclosure of Interests: Mariaeva Romano Speakers bureau: janssen, Laura Belloli: None declared, Elisa Verduci: None declared, Cinzia Casu: None declared, Valeria Campanella: None declared, Marina Muscarà: None declared, Davide Antonio Filippini: None declared, Emanuela Schito: None declared, Maria Di Cicco: None declared, Oscar Massimiliano Epis Speakers bureau: BMS

DOI: 10.1136/annrheumdis-2019-eular.2992