

follow-up. Moreover, the effect of the corticosteroid injection prolonged the entire 12 week follow-up period.

**Disclosure of Interest:** None declared

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#### SAT0493 MAINTAINING SUFFICIENT SERUM VITAMIN D LEVELS OVER TWO YEARS IS ASSOCIATED WITH IMPROVED KNEE STRUCTURAL AND SYMPTOMATIC OUTCOMES IN PEOPLE WITH KNEE OSTEOARTHRITIS: A POST HOC ANALYSIS OF THE VIDEO TRIAL

S. Zheng<sup>1</sup>, X. Jin<sup>1</sup>, F. Cicuttini<sup>2</sup>, X. Wang<sup>1</sup>, Z. Zhu<sup>1</sup>, A. Wluka<sup>2</sup>, W. Han<sup>1</sup>, T. Winzenberg<sup>1</sup>, B.E. Antony<sup>1</sup>, D. Aitken<sup>1</sup>, L. Blizzard<sup>1</sup>, G. Jones<sup>1</sup>, C. Ding<sup>1</sup>.

<sup>1</sup>Menzies Institute for Medical Research, University of Tasmania, Hobart;

<sup>2</sup>Department of Epidemiology and Preventive Medicine, Monash University, Melbourne, Australia

**Objectives:** To describe whether maintaining sufficient serum vitamin D levels in people with knee osteoarthritis (OA) and baseline vitamin D insufficiency has an association with change in knee structures and symptoms over two years.

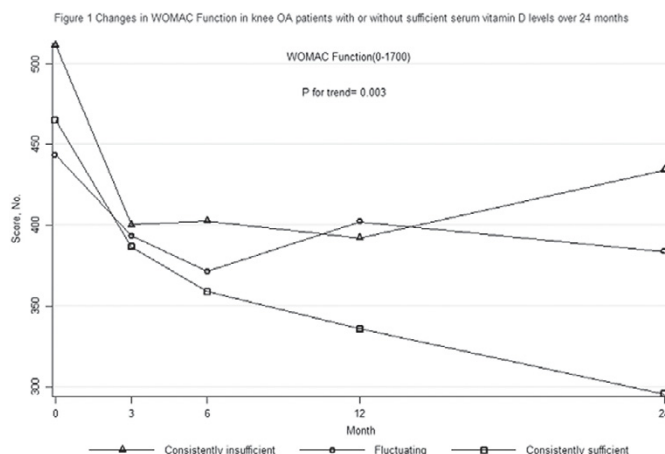
**Methods:** Participants (n=413, age 63.2; 50% females) with symptomatic knee OA and vitamin D insufficiency were enrolled in a clinical trial. 340 participants (82.3%) completed the study with 25-hydroxyvitamin D [25(OH)D] measurements at month 0, 3 and 24. Participants were classified as consistently insufficient (serum 25(OH)D  $\leq$ 50nmol/l at month 3 and 24, n=45), fluctuating (25(OH)D >50nmol/l at either point, n=68) and consistently sufficient (25(OH)D >50nmol/l at month 3 and 24, n=226) vitamin D groups. Knee cartilage volume, cartilage defects, bone marrow lesions (BMLs) and effusion-synovitis volume were assessed using MRI at baseline and month 24. Knee symptoms were assessed at baseline, month 3, 6 12 and 24 using Western Ontario and McMaster Universities Arthritis Index (WOMAC).

**Results:** The consistently sufficient group had significantly less loss of tibial cartilage volume ( $\beta$ : 2.1%, 95 CI%: 0.3%, 3.9%), less increase in effusion-synovitis volume ( $\beta$ : -2.5ml, 95 CI%: -4.7, -0.2) and less loss of WOMAC physical function ( $\beta$ : -94.2, 95% CI: -183.8, -4.5) compared to the consistently insufficient group in multivariable analyses. In contrast, there were no significant differences in these outcomes between the fluctuating and consistently insufficient groups. Changes in tibiofemoral cartilage defects, BMLs and knee pain were similar between groups.

Table 1. Associations between maintaining sufficient 25-(OH)D levels and changes in cartilage volume and effusion-volume over 24 months in patients with knee osteoarthritis

	Multivariable analysis	
	$\beta$ (95% CI)	P Value
Total tibial Cartilage Volume Change (%/y)		
Consistently insufficient	Reference	
Fluctuating	1.5 (-0.5, 3.5)	0.15
Consistently sufficient	2.1 (0.3, 3.9)	<b>0.03</b>
P for trend		<b>0.02</b>
Effusion-Synovitis Absolute Volume Change (ml)		
Consistently insufficient	Reference	
Fluctuating	0.7 (-2.5, 3.9)	0.66
Consistently sufficient	-2.5 (-4.7, -0.2)	<b>0.03</b>
P for trend		<b>&lt;0.01</b>

Adjusted age, sex and BMI and change in season of blood sampling.



**Conclusions:** This post hoc analysis suggests beneficial effects of maintaining vitamin D sufficiency on cartilage loss, effusion-synovitis and physical function in people with symptomatic knee OA.

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and Knee Pain Among Patients With Symptomatic Knee Osteoarthritis: A Randomized Clinical Trial. *JAMA* 2016; 315(10):1005–13.

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#### SAT0494 EARLY TOLL-LIKE RECEPTOR 4 BLOCKADE IMPEDES THE BEHAVIOURAL AND HISTOLOGICAL CHARACTERISTICS OBSERVED IN A MIA-INDUCED ANIMAL MODEL OF OSTEOARTHRITIC PAIN

M.M. Garcia<sup>1,2</sup>, D. Pascual<sup>1,2</sup>, E. Quesada<sup>2,3</sup>, J.A. Uranga<sup>4</sup>, C. Goicoechea<sup>2,5</sup>.

<sup>1</sup>Pharmacology, Universidad Rey Juan Carlos, Alcorcón; <sup>2</sup>Unidad Asociada URJC-IQM-CSIC, Madrid-Alcorcón; <sup>3</sup>Grupo Nucleósidos, Instituto química

médica CSIC, Madrid; <sup>4</sup>Histología, Universidad Rey Juan Carlos, Alcorcón;

<sup>5</sup>Pharmacology, Universidad Rey Juan Carlos, Madrid, Spain

**Background:** Contribution of Toll-Like Receptor 4 (TLR4) to pain sensitisation has been demonstrated to occur under chronic pain conditions. We previously described an antinociceptive effect of TLR4-A1, a TLR4 inhibitor, in two chronic pain conditions, peripheral neuropathic pain and osteoarthritis (OA).

**Objectives:** The aim of this study was to evaluate TLR4-A1 effect on allodynia and hyperalgesia in OA model, and to evaluate whether this effect is correlated with changes in spinal glial activation.

**Methods:** Wistar rats weighing 200–250g were used. OA was induced by a single intraarticular injection of 2mg of monosodium iodoacetate (MIA) into the right knee joint of anaesthetised rats. TLR4-A1, 10 mgkg<sup>-1</sup>, was intraperitoneally administered during the first five days post-MIA injection. TLR4-A1 was synthesised by Dr Quesada. Vehicle-treatment (ethanol:saline, 1:9) was used as control. Each group was composed of 6 animals. After three weeks (day 22 post-MIA injection), animals were sacrificed for tissue collection. L3-L5 spinal segments were collected and embedded in paraffin wax. Eventually, samples were immune-stained with anti-GFAP or Iba-1 antibodies. Photomicrographs were recorded to make montages of the entire spinal cord at a final magnification of 20x (n=3 per lumbar section). Total number of GFAP or Iba-1 positive cells were counted separately in laminae I-II, III-IV and V-VI.

**Results:** Intraarticular injection of MIA increased microglial expression (Iba-1 labelling) in the ipsilateral spinal cord compared to the contralateral side, being the difference statistically significant for the superficial (I-II, +72.25%; P<0.01) and deeper (V-VI, +95.31%; P<0.001) laminae of L3 and for the superficial laminae of L4 (+87.5%; P<0.01). In animals treated with TLR4-A1, Iba-1 labelling in the ipsilateral dorsal horn showed a similar pattern to the contralateral dorsal horn. Pre-treatment with TLR4 blocker prevented microglia activation after MIA-injection in L3 and L4 segments.

Intraarticular injection of MIA also increased the number of GFAP-positive activated astrocytes in the ipsilateral spinal cord compared to the contralateral side; in this case, statistically significant differences were found for the superficial (I-II; +41.62%; p<0.01) and middle (III-IV; +64.35%, p<0.001) laminae of L3 sections. GFAP in TLR4-A1-treated rats showed a similar pattern for the ipsi- and the contra-lateral sides. That is, TLR4-A1 prevented L3 increased activated astroglia following MIA-injection.

**Conclusions:** Early toll-like receptor 4 blockade hampers spinal glial activation, which correlates with diminished allodynia and hyperalgesia observed in TLR4-A1-treated animals in a model of MIA-induced OA. Although further studies are needed, TLR4 blockade could be a good option in the treatment of osteoarthritis.

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#### SAT0495 KNEE FUNCTION AND ENTHESITIS IN LONG STANDING OSTEOARTHRITIS, WHAT ULTRASOUND COULD TELL US?

A. Abogamal, H. Aly, S. Ghanem, H. Saad on behalf of AL-Azhar MSUS school. *Rheumatology, Alazhar Faculty of Medicine, Cairo, Egypt*

**Background:** The enthesis around the knee including the quadriceps tendon and infrapatellar ligament insertions could be responsible for a significant cause of knee pain functional deterioration in long standing knee osteoarthritis.

**Objectives:** Ultrasound evaluation of the enthesis at the quadriceps tendon patellar insertion, infrapatellar ligament patellar and tibial insertions in patients with long standing knee osteoarthritis (KOA) and low knee function.

**Methods:** 410 Patients with KOA attending the outpatient rheumatology clinic of AL-Azhar university hospitals who had met the inclusion criteria:

- Primary Knee osteoarthritis.
  - Kellegren – Lawrance scale grade III.
  - At least 5 years disease duration.
- Exclusion criteria:
- Patients with chronic diseases affects the patient function.

- Patients with previous knee surgery, recent trauma, or intraarticular intervention.
- Patients with knee effusion, active synovitis, or popliteal cysts.

All patients were subjected to ultrasound assessment in gray scale and Power Doppler was performed using a scanner with a multifrequency 12L linear array transducer (General electric Systems; LOGIQU-E). Ultrasound techniques were used for all patients included in the study. Knee was assessed for the following items in both sides while Patient lying supine with the knee flexed 40 degrees:

1) Superior pole of the patella – quadriceps tendon enthesis: • Quadriceps tendon thickness >6.1 mm • Suprapatellar bursitis • Superior pole of patella erosion • Superior pole of patella enthesophyte.

2) Inferior pole of the patella – proximal patellar ligament enthesis: • Patellar ligament thickness >4 mm • Inferior pole of patella erosion • Inferior pole of patella enthesophyte.

3) Tibial tuberosity – distal patellar ligament enthesis • Patellar ligament thickness >4 mm • Infrapatellar bursitis • Tibial tuberosity erosion • Tibial tuberosity enthesophyte.

Knee functional status was assessed using KOOS scale for Pain, other Symptoms, Activities of Daily Living (ADL), Sport and Recreation Function (Sport/Rec) and knee-related Quality of Life (QOL). Low knee function was considered if the patient had score 50 or more in any KOOS scale parameter.

**Results:** 172 (42%) patients were found with low knee function among them quadriceps enthesitis found in 114 (66.3%) patients, at the patellar attachment of infrapatellar ligament in 160 (93%) patients, and enthesitis at the tibial attachment of infrapatellar ligament in 44 (26%) patients. Good knee function were found in 238 (58%) patients among them quadriceps enthesitis found in 76 (31.9%) patients, at the patellar attachment of infrapatellar ligament in 87 (36.3%) patients, and no enthesitis at the tibial attachment of infrapatellar ligament were detected.

**Conclusions:** Enthesitis at the quadriceps and infrapatellar ligament represent a common ultrasonographic finding in patients with longstanding KOA, and significantly associated with low knee function.

**Disclosure of Interest:** None declared

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#### SAT0496 SAFETY OF DIACEREIN IN PATIENTS WITH OSTEOARTHRITIS – A REAL WORLD EXPERIENCE WITH UNEXPECTED RESULTS

A. Malpica<sup>1</sup>, K. Mendez<sup>2</sup>, P. Santos-Moreno<sup>3,3,3</sup>, L. Villarreal<sup>4</sup>, D. Buitrago-Garcia<sup>1</sup>. <sup>1</sup>Epidemiology; <sup>2</sup>Pharmaceutical chemist; <sup>3</sup>Rheumatology; <sup>4</sup>Psychology and processes, Biomab, Center for Rheumatoid Arthritis, Bogota, Colombia

**Background:** Osteoarthritis (OA) is a common joint disorder and may occur in any synovial joint in the body, the condition is common in hands, knees, hips and spine. Diacerein is an anthraquinone derivate has shown the inhibition of cytokine interleukine 1-B (1). A Cochrane review published in 2014 showed that diacerein could be effective for this condition, however the most frequent adverse event with this medication was diarrhea compared to placebo RR 3.52 (95% CI 2.42 to 5.11) or other symptomatic slow acting drugs for OA 3.20 (95% CI 1.58 to 6.49) (2).

**Objectives:** To describe the real-world safety of Diacerein in patients with OA in a specialized center in Bogotá, Colombia.

**Methods:** We performed a cross-sectional study; patients with confirmed criteria of osteoarthritis and treated on a regularly basis with Diacerein were included. Patients were followed during a 18 month period. Adverse events were classified according the Common Terminology Criteria for Adverse Events (CTCAE) of the World Health Organization. Descriptive epidemiology for continuous variables, measure of central tendency and dispersion for qualitative and categorical variables through percentages and averages were calculated, we analyzed bi-variated correlations with X2 test.

**Results:** 1278 patients meet inclusion criteria; mean age was 62 year ± 10 years. 88% were female and 12% male, due to our patient's condition 80% of them were polymedicated. 93% of our patients received diacerein in usual dose of 100 mg daily and remaining 7% in a 50 mg day dose. Regarding safety 7.5% (n=96) of our patients reported any event adverse, the most frequent event was diarrhea with 50%, followed by nausea and abdominal disturbances among others. According to the CTAE classification the events adverse were mild 98% and only 2% severe; that means only 0.075% of total of patients receiving Diacerein had severe AE. On the other hand, correlation between adverse events and polymedication were statistical significant (P=0.000). For this reason we consider that AE such as diarrhea can be attributed more to patients' polymedication than diacerein.

**Conclusions:** This evidence showed a low proportion of patients with adverse events taking Diacerein; also most of these patients were polymedicated giving as a result a higher risk of having an adverse event. When we compared our results to other studies diarrhea was the most frequent event, followed by nausea, but only a very low proportion of patients were forced to discontinue medication. It is important to continue following patients that take diacerein in order to report its true safety and effectiveness.

**References:**

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#### SAT0497 WHAT ARE THE PATIENTS' EXPERIENCE, NEEDS AND EXPECTATIONS IN HAND OSTEOARTHRITIS? A QUALITATIVE EVALUATION

M.-A. Offroy, A. Frazier-Mironer. *Centre Viggo Petersen, Rheumatology Department, APHP Lariboisière Hospital, Paris, France*

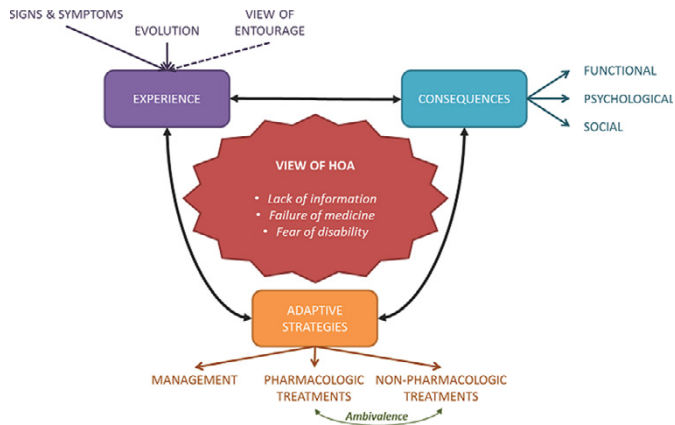
**Background:** The objective of this study was to evaluate the patients' experience and needs with HOA, in order to establish a therapeutic education program for HOA patients.

**Objectives:** As the subject was about descriptive, not quantifiable elements, qualitative methodology was chosen. Patients were submitted to individual semi-directive interviews. Verbatim were analyzed following the grounded theory until saturation of data.

**Methods:** Twelve HOA patients accepted to participate to the study. There were 10 women and 2 men, aged 45 to 79 years. Body-mass indexes varied from 18.7 to 31.6 kg/m<sup>2</sup>. Clinical and radiological severity of HOA varied among patients.

They provided data on the experience of HOA, which is influenced by clinical and functional signs and the evolution of the disease. Pain and deformity are the main clinical signs, and lead to severe functional impairment. The functional, psychological, social consequences of HOA also have an impact on the patient experience. Patients develop adaptive strategies, mainly recourse to medical management, and pharmacological and non-pharmacological therapies. The needs of HOA patients were also explored, and three main ideas emerged. First, they want to be better informed on HOA. Second, they have a feeling of failure of conventional medicine, and often use alternative medicines. Third, the fear of disability with the course of the disease is very strong. They have difficulty accepting pharmacological treatments, but often do not realize the therapeutic nature of non-pharmacological treatments.

**Results:** The main concerns of HOA patients are: information, non-pharmacological treatments and evolutionary risks. These themes should be included in the development of therapeutic education programs for HOA.



**References:**

[1] We thank Pr François Rannou, Pr Pascal Richette and Pr Eric Roulot for providing access to HOA consultation in their centers for recruitment. We thank Dr Laurence Baumann-Coblentz for her advice in qualitative methodology.

**Acknowledgements:** We thank Pr François Rannou, Pr Pascal Richette and Pr Eric Roulot for providing access to HOA consultation in their centers for recruitment. We thank Dr Laurence Baumann-Coblentz for her advice in qualitative methodology.

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#### SAT0498 THE PERFORMANCE OF URINARY COLLAGEN TYPE II C-TELOPEPTIDE (UCTX-II) IN KNEE OSTEOARTHRITIS: A META-ANALYSIS

B. Jeremiase, F.P. Lafeber, W.E. Van Spil. *Department of Rheumatology and Clinical Immunology, UMC Utrecht, Utrecht, Netherlands*

**Background:** Among the currently available biochemical markers for osteoarthritis (OA), urinary collagen type II C-telopeptide (uCTX-II) is one of the most frequently investigated markers<sup>1</sup>. Much research has been performed into the performance of uCTX-II, but most of it in relatively small cohort studies<sup>1</sup>. Therefore, we performed a meta-analysis to summarize uCTX-II studies in a quantitative way.

**Objectives:** To perform a meta-analysis of the performance of uCTX-II as a biomarker for diagnosing knee osteoarthritis (KOA) and its association with radio-