Table 1: Volume and thickness of the bone-cartilage unit, femoral head volume and osteophyte area in healthy subjects (HS), osteoarthritis (OA) and rheumatoid Arthritis (RA) patients.

	Healthy subjects (n = 12)	Osteoarthritis (n = 12)	Rheumatoid Arthritis (n = 6)	ANOVA	OA vs RA	HS vs RA	HS vs OA
		Mean [95%CI]			P - value		
Age (years)	62[60;65]	62 [59;65]	63[60;65]	0.984	—	—	—
Gender (M:F)	6:6	6:6	3:3	1.000	—	—	—
Femoral head volume (cm ³)	52.0[39.6;64.3]	43.6[37.3;50.0]	41.1[33.6;48.7]	0.233	—	—	—
Articular cartilage volume (cm ³)	7.4[5.9;8.9]	5.1[4.0;6.1]	2.9[1.6;4.3]	<0.001	0.012	<0.001	0.021
Articular cartilage thickness (μm)	1413 [1244;1582]	1134 [931;1338]	721[403;1040]	<0.001	0.029	<0.001	0.086
Subchondral bone thickness (μm)	227[172;282]	406[285;527]	409[186;632]	0.021	1.000	0.099	0.034
Calcified cartilage thickness (μm)	108[81.1;143]	119[94.1;151]	56.6[25.3;127]	0.016†	0.017	0.046	1.000
Osteophyte area (mm ²)	8.8[2.2;35.7]	70.9[41.4;121]	49.2[4.7;513]	0.008†	1.000	0.073	0.006

Data are presented as mean [95%CI]. Statistical significance was found using one-way ANOVA. The Post-hoc Bonferroni test was used to identify intergroup differences. †Data not normally distributed was log-transformed and presented as geometric mean [95%CI].

Conclusion: Patients with secondary osteoarthritis due to rheumatoid arthritis had thinner articular cartilage and calcified cartilage but were otherwise not significantly different from patients with primary osteoarthritis. Thus, the inflammatory joint in rheumatoid arthritis was associated with a more pronounced loss of cartilage than the degenerative joint disease in primary osteoarthritis. The thicker calcified cartilage in primary osteoarthritis has been attributed to endochondral ossification; this does not seem to be the case in rheumatoid arthritis.

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AB0797

GRANULYSIN MEDIATED CYTOTOXICITY AND ITS SERUM CONCENTRATION IN PATIENTS WITH KNEE OSTEOARTHRITIS

^{1,2}Gordana Laskarin^{*}, Tatjana Kehrer^{2,3}, Viktor Persic^{4,5}, Merica Aralica³, Božena Ćurko-Cofek⁶, Marija Rogoznica⁷, Ivan Rosovic⁴, Tamara Kauzlaric-Zivkovic⁴, Sandra Rusac-Kukic⁴, Daniel Rukavina^{6,8}. ¹Faculty of Medicine, Department of Physiology and Immunology, Rijeka, Croatia; ²Specialized Hospital "Thalassotherapy-Opatija", Department of Rheumatology, Opatija, Croatia; ³Faculty of Health Studies, Department of Medical Rehabilitation, Rijeka, Croatia; ⁴Specialized Hospital "Thalassotherapy-Opatija", Opatija, Croatia; ⁵Faculty of Health Studies, Rijeka, Croatia; ⁶Faculty of Medicine, Department of Physiology and Immunology, Rijeka, Croatia; ⁷Specialized Hospital "Thalassotherapy-Opatija", Department of Rheumatology, Opatija, Croatia; ⁸University of Rijeka, Department of Biotechnology, Dept. Biomedical Sciences in Rijeka, Rijeka, Croatia

Background: In OA joint, synovial membrane contain immunocompetent cells (1-4), which produce predominantly pro-inflammatory cytokines (2,5), justifying the name "osteoarthritis" and directing the development of disease towards mild systemic inflammatory condition (6). Granulysin (GNLY) is mediator of cellular immunity expressed in T and NK cells in 15 kDa precursor and 9 kDa cytotoxic forms (2). It is regulated by interleukin 15. We investigated GNLY expression in peripheral blood lymphocytes and GNLY mediated apoptosis *in vitro*, serum concentration of IL-15 and the correlation of GNLY expression with intensity of the pain in the knee of OA patients and with 6-minute walk distance.

Objectives: Women with knee OA (20), and healthy control (17) were medically examined, and their blood samples tested. All of them signed informed consent before medical sampling of peripheral blood (PB).

Methods: Visual analogue scale (VAS) of pain and results of 6-minute walk test were noticed in all participants. Peripheral blood mononuclear cells were isolated by gradient density centrifugation and intracellular GNLY labeling in CD3-CD56+NK cells, CD3+CD56- T cells and CD3+CD56+ NKT cells was performed and analyzed by flow cytometry. NK cells' apoptotic activity against NK sensitive K-562 cells was measured in 18-hour PKH-26 (red) cytotoxicity assay with evaluation of propidium

iodide/annexin V+ target cells by flow cytometry. In some samples anti-GNLY and/or anti-perforin antibodies were added. IL-15 concentration was measured by ELISA. Nonparametric Kruskal-Wallis and Mann-Whitney U-test, as well as Spearman correlation test were used for statistical evaluation.

Results: In lymphocytes of OA patients GNLY expression and NK cell-mediated apoptosis of K-562 cells did not differ significantly from the healthy control. In OA patients only, RC8 antibody against cytotoxic GNLY molecule significantly decreased apoptosis of K-562 cells. RF10 anti-15 kDa GNLY did not show such effect. Anti-perforin antibody completely abolished apoptosis in both groups tested and the effects of additionally added RC8 or RF10 anti-GNLY antibodies were not observed. Serum IL-15 concentration in healthy controls and OA patients was low and did not show statistically significant difference. GNLY expression in lymphocytes, and particularly in NK subset, positively correlated with VAS of pain and 6-minutes walking distance.

Conclusion: In OA patients, GNLY mediated apoptosis is involved in apoptosis of NK sensitive K-562 cells *in vitro* and might be involved in the killing of damaged joint cells *in vivo* after direct contact.

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AB0798

GENDER DIFFERENCES IN DURATION OF SYMPTOMS AND PREOPERATIVE EXPECTATIONS IN TOTAL KNEE ARTHROPLASTY PATIENTS

¹Daisy Latijnhouters^{*}, Claudia Leichtenberg¹, Rob Nelissen¹, Willem Jan Marijnissen², Pieter-Jan Damen³, Thea Vliet Vlieland⁴, Maaik Gademans⁵, In addition to authors, the study group consist of: H. van der Linden-van der Zwaag, B. Kaptein, LUMC; S. Vehmeijer, Reinier de Graaf Hospital, R. Onstenk, Groene Hart Hospital, S. Verdegaa, Alrijne Hospital, H. Kaptijn, LangeLand Hospital. ¹LUMC, Orthopaedics, Leiden, Netherlands; ²Albert Schweitzer Hospital, Orthopaedics, Dordrecht, Netherlands; ³Waterland Hospital, Orthopaedics, Purmerend, Netherlands; ⁴LUMC, Orthopaedics, Rehabilitation and Physiotherapy, Leiden, Netherlands; ⁵LUMC, Orthopaedics and Clinical Epidemiology, Leiden, Netherlands

Background: The literature suggests that women with knee osteoarthritis (OA) perceive greater disability and a lower functional level before total

knee arthroplasty (TKA) and undergo surgery at a later stage of the disease than men, which could lead to worse postoperative outcomes (1). These differences have been attributed to differences in the interpretation of symptoms between men and women (2), yet little is known about expectations of the postoperative outcomes of TKA.

Objectives: To compare the duration of symptoms before TKA and the preoperative expectations of postoperative outcomes of TKA between men and woman.

Methods: Preoperative data from a multicenter cohort study on outcomes of primary TKA were used. Preoperatively, patients were asked to indicate the duration of symptoms to TKA (<1 year, 1-5 years, 5-10 years and >10 years). The Hospital for Special Surgery (HSS) Knee Replacement Expectations Survey was used to obtain information on expectations regarding postoperative pain relief, mobility and daily activities and improvement of quality of life (score range 0-100), with lower scores indicating higher expectations. In addition, the Knee injury and Osteoarthritis Outcome Score (KOOS), pain (Numeric Rating Scale, NRS), comorbidities and work-status were gathered. Differences between men and women regarding the duration of symptoms and preoperative expectations were examined by the means of the Chi-Square test and independent t-test and difference with the 95% Confidence Interval (CI) respectively.

Results: A total of 1543 patients, 556 men (mean age 71 (SD 8), 32.3% paid employment) and 987 women (mean age 71 (SD 9), 20.3% paid employment) were included. Women had more pain preoperatively than men, 5.3 (SD 3) versus 4.3 (SD 3) at rest and 7.1 (SD 2) versus 6.2 (SD 3) during activity, respectively. Furthermore, men scored better on each KOOS subscale compared to women. Overall the duration of symptoms was longer in men than women: <1 year: 11.3% versus 9.6%, 1-5 years: 38.8% versus 49.7%, 5-10 years: 18.3% versus 20.0% and > 10 years: 31.5% versus 20.7%. Finally, women had significantly higher expectations of postoperative TKA outcomes than men, 67.4 (SD 19) and 70.2 (SD 19), respectively (Mean Difference; 2.79, 95% CI 0.84-4.75).

Conclusion: Preoperatively, men reported a longer duration of symptoms and had lower expectations of TKA outcomes than women. However, men seemed to perceive less symptoms and restrictions in daily activities despite a longer duration of symptoms.

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AB0799

ART- QUALIVIE: ASSESSMENT OF THE QUALITY OF LIFE OF PATIENTS WITH KNEE OSTEOARTHRITIS SIX MONTHS AFTER TREATMENT WITH THREE INTRA-ARTICULAR INJECTIONS OF ARTHRUM H 2%

¹Milka Maravic¹, Christian Pascaretti², Paolo Insalaco², Antoine Lesort³, Patrice Vincent⁴, Hakima Miotti⁵, Isabelle Bardoulat⁵, Cathy Maillard⁵. ¹IQVIA/Lariboisière (Hospital), Real World Insights/Rheumatology, La Défense/Paris, France; ²Le Ronceray Rheumatology, Angers, France; ³Hôpital Privé des Peupliers, Paris, France; ⁴LCA SA – LCA PHARMACEUTICAL, Chartres, France; ⁵IQVIA, La Défense, France

Background: Knee osteoarthritis (KOA) is a chronic condition affecting mainly the elderly and considered as the leading cause of disability after cardiovascular disease. KOA is characterized by functional discomfort and deformities, leading to a deterioration in the quality of life (QoL) of patients.

Objectives: The main objective was to demonstrate that 3 intra-articular injections of ARTHRUM H 2% improves the physical QoL of patients over a 6-month period.

Methods: A French observational, prospective, multi-centre study was conducted between 02/2016 and 07/2017 in patients over 40 suffering from Kellgren and Lawrence (KL) grade I, II or III primary KOA and treated with 3 intra-articular injections of ARTHRUM H 2%. The variables included a questionnaire completed by a physician and the validated 12 items Short Form Health Survey (SF-12), completed by patients at baseline (right before the injections), and then at 90 and 180 days. The primary endpoint was the change in physical summary score from baseline

to 180 days (paired Student t-tests). Logistic regression analyses were used to identify the main drivers of significant increase of physical summary score, adjusted for sociodemographic and health covariates.

Results: Of the 134 patients treated with ARTHRUM H 2% included in the study, 115 were evaluable for the primary outcome (non-exploitable data for 19 patients).

The baseline characteristics of the analysable population were as follows: mean age of 66.4 years (± 10.7); majority female (66.4%); mean BMI of 28.7 (± 5.3) kg/m² (43.3% overweight and 35.1% obese); KL grade KOA grade: I 13.6%, II 40.2%, III 46.2%; localization: uni-compartmental 53.0% (78.6% medial, 15.7% lateral, 5.7% patellofemoral), bi-compartmental 40.2% and tri-compartmental 6.8%. Regarding management history, respectively 6.7% and 44.8% of patients had previously received physical therapy or rehabilitation, and a visco-supplementation (2.2 treatments on average). Comorbidities observed in 73.9% of patients were metabolic-related in 54.5%, cardiovascular-related in 46.3%, gastrointestinal-related in 20.9%, and neurological-related in 8%.

A clinically and statistically significant improvement in the QoL of patients was observed with an increase from 40.0 at baseline to 44.8 at 6 months ($p < 0.001$). A significant improvement was achieved during the 3 months following visco-supplementation (D0: 40.0 vs. D90: 44.8) and maintained from three to 6 months from baseline (D90: 44.8 vs. D180: 44.9).

The factors significantly associated with an improvement in QoL were: grade III KOA (OR=5.254, $p=0.032$), grade II KOA (OR=3.507, $p=0.100$), lateral femorotibial osteoarthritis (OR=3.175, $p=0.029$) and a single history of visco-supplementation (OR=2.936, $p=0.044$).

Conclusion: ART-QUALIVIE is a French study providing real-world data on the evolution of QoL of visco-supplemented KOA patients. It has demonstrated the positive impact of ARTHRUM H 2% on the QoL of patients over the 3 months following injections maintained until 6 months after treatment.

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AB0800

ESTABLISHMENT OF TECHNICAL PERFORMANCE CRITERIA AND REFERENCE INTERVALS FOR OSTEOARTHRITIS-RELATED SOLUBLE BIOMARKERS: THE APPROACH CONSORTIUM

Anne-Christine Bay-Jensen¹, Yves Henrotin², Sven Lindemann³, Christoph Ladel³, Anne-Christine Hick², Morten Karsdal¹, Jonathan Larkin⁴, André Struglics⁵, ⁶Ali Mobasheri¹. ¹Nordic Bioscience, Biomarkers and Research, Rheumatology, Herlev, Denmark; ²Artialis SA, Luik, Belgium; ³Merck KGaA, Darmstadt, Germany; ⁴GlaxoSmithKline, Collegeville, United States of America; ⁵Lund University, Faculty of Medicine, Dept of Clinical Sciences Lund, Orthopaedics, Lund, Sweden; ⁶State Research Institute Centre for Innovative Medicine, Department of Regenerative Medicine, Vilnius, Lithuania

Background: Disease modifying therapy of osteoarthritis (OA) represents an unmet clinical need, and appropriate outcome measures are required that can robustly identify patients with different OA phenotypes who may benefit from specific and more targeted therapies. APPROACH is an exploratory, 5-centre, 2-year prospective follow-up European cohort study. It entails extensive clinical, imaging, biomechanical and biochemical parameters, in a cohort recruited using machine learning models based on retrospective patient data to display a high likelihood of radiographic joint space width loss, MRI changes and/or knee pain over the course of the study. Biochemical markers (biomarkers) can be used to understand