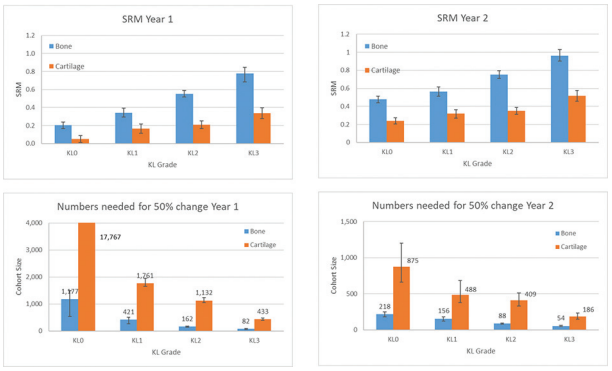

Abstract THU0425 – Figure 1. SRM and cohort numbers by KL grade for bone shape and cartilage thickness in 6,939 knees. Top row shows SRM values at 1 year (left) and 2 years for femur bone shape and central medial femur cartilage thickness, with 95% confidence limits calculated using a bootstrap method. Bottom row shows numbers needed per cohort arm, assuming 50% change, 80% probability, alpha 0.05. Units are in vector units for bone shape, and mm for cartilage thickness.

Abstract THU0425 – Table 1. Responsiveness of bone shape and cartilage thickness by KL Grade

B score Change (femur)								
	1 year				2 year			
	SRM (±95% CL)	Cohort Size	Mean Change	SD	SRM (±95% CL)	Cohort Size	Mean Change	SD
KL 0	0.21 (0.17 , 0.24)	1177 (851 , 1808)	0.030	0.147	0.48 (0.44 , 0.51)	218 (188 , 258)	0.090	0.189
KL 2	0.34 (0.29 , 0.39)	421 (324 , 578)	0.064	0.186	0.56 (0.51 , 0.61)	156 (132 , 188)	0.158	0.281
KL 2	0.55 (0.52 , 0.59)	162 (141 , 185)	0.125	0.225	0.75 (0.71 , 0.79)	88 (79 , 98)	0.259	0.344
KL 3	0.78 (0.68 , 0.85)	82 (69 , 106)	0.251	0.322	0.96 (0.9 , 1.03)	54 (47 , 62)	0.459	0.477
Cartilage Thickness Change (cMF region)								
	1 year				2 year			
	SRM (±95% CL)	Cohort Size	Mean Change	SD	SRM (±95% CL)	Cohort Size	Mean Change	SD
KL 0	-0.05 (-0.09 , -0.01)	17857 (310065 , 6130)	-0.004	0.068	-0.24 (-0.27 , -0.2)	875 (1202 , 663)	-0.019	0.079
KL 1	-0.17 (-0.22 , -0.12)	1761 (3689 , 1063)	-0.016	0.093	-0.32 (-0.36 , -0.27)	488 (683 , 376)	-0.037	0.117
KL 2	-0.21 (-0.17 , -0.25)	1132 (1798 , 787)	-0.023	0.110	-0.35 (-0.31 , -0.39)	409 (514 , 328)	-0.049	0.140
KL 3	-0.34 (-0.4 , -0.28)	433 (636 , 314)	-0.054	0.161	-0.52 (-0.58 , -0.46)	186 (235 , 148)	-0.107	0.207

Detailed breakdown of SRM values, cohort size, mean change, and SD of that change for Figure 1. Units are in vector units for bone shape, and mm for cartilage thickness.

Disclosure of Interests: Michael Bowes Shareholder of: Stryker Corporation, Employee of: Stryker Corporation, Alan Brett Shareholder of: Stryker Corp, Employee of: Stryker Corp, Philip G Conaghan Consultant for: Flexion Therapeutics, AbbVie, Medivir, Merck Serono, Novartis, GlaxoSmithKline

DOI: 10.1136/annrheumdis-2019-eular.6992

THU0426 EFFECTS OF SODIUM SUCCINATE AND HYALURONIC ACID IN KNEE OSTEOARTHRITIS TREATMENT

Oleksandr Burianov[1], Liudmyla Khimion[2], Taras Omelchenko[1], Halyna Havryliuk[2]. *[1]Bogomolets National Medical University, Traumatology and Orthopedic, Kyiv, Ukraine*; *[2]Shupyk National Medical Academy of Postgraduate Education, Family Medicine, Kyiv, Ukraine*

Background: At present hyaluronic acid (HA) is rather widely used in treatment of patients with osteoarthritis (OA). HA normalizes the properties of the synovial fluid; has a protective effects; promotes the cartilage nutrition and so improves the signs of OA and function of the joints. Sodium succinate (the salt of the succinic acid) helps to normalize intracellular metabolism and tissue respiration in hypoxic conditions via mitochondrial mechanism of action; normalizes acidic – alkaline balance; takes part in K^+ and Ca^{2+} transportation and provides antioxidant defense, - so is a promising compound for cartilage treatment

Objectives: To investigate the clinical efficacy of combination of hyaluronate and sodium succinate in treatment of early OA stages

Methods: The study included 126 patients with knee OA (stages I-II, Kelgren and Lawrence), mean age (54.3 ± 2.7) years, among them - 75 women (60%) and 51 men - (40%). All enrolled patients had OA exacerbation (without clinically evident synovitis) and received standard OA treatment (NSAIDs, exercises, orthopedic devices) for 15 days; Gr.1 patients (58) also got 5 intra-articular injections of 1.1% hyaluronic acid, stabilized with sodium succinate (2 ml, once a week); patients of Gr.2 (68) in addition to standard treatment received 5 intra-articular injections of 1,1% solution of non-stabilized HA (2 ml, once a week). Clinical observation and evaluation of the results were performed at the beginning of the treatment, at 6th, 12th and 24th week after the study beginning

Results: During the treatment period, patients in both groups showed the positive changes in clinical signs and symptoms of OA which led to the lowering of the general WOMAC index (from (78.3 ± 4.1) in Gr. 1 and (75.4 ± 3.8) in Gr. 2 at the beginning of the study to (27.9 ± 2.6) and (29 8 ± 1.9) accordingly at week 12 (p<0,05 for both groups). The VAS score in both groups indicated a significant pain reduction, but the stability and duration of the clinical effect in the groups was different. In patients of Gr.1, the pain syndrome continued to decrease after 12 weeks till 24th week, whereas in Gr.2 after the treatment course there was no significant changes in further pain regression after 6th week point. The changes in Lisholm score were also significantly better in Gr.1 than in Gr. 2 (before treatment (21.7 ± 4.6) and (22.6 ± 5.3), at week 6 - (86.4 ± 5.7) and (71.3 ± 4.8), at week 12 – (87.6 ± 6.2) and (63.8 ± 5.3), respectively, p<0,05 between groups at week 12th

Conclusion: Combination of the hyaluronic acid and sodium succinate biochemical and physiologic properties in early stages of knee OA (as intra-articular injections) allows to increase the treatment efficacy, achieve better pain control, and more stable remission comparing to use of the hyaluronic acid alone

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.6120

THU0427 THE LIFETIME RISK OF KNEE AND HIP REPLACEMENT FOLLOWING A GP DIAGNOSIS OF OSTEOARTHRITIS: REAL WORLD COHORT DATA FROM CATALONIA INCLUDING 48,311 PARTICIPANTS WITH UP TO 9 YEARS OF FOLLOW-UP

Edward Burn[1], David W Murray[2], Gillian A Hawker[3,4 5], Rafael Pinedo-Villanueva[1], Daniel Prieto-Alhambra[1,6]. *[1]Centre for Statistics in Medicine, NDORMS, University of Oxford, Oxford, United Kingdom*; *[2]NDORMS, University of Oxford, Oxford, United Kingdom*; *[3]Women's College Hospital, Women's College Research Institute, Toronto, Canada*; *[4]Institute for Clinical Evaluative Sciences, Toronto, Canada*; *[5]Department of Medicine, University of Toronto, Toronto, Canada*; *[6]GREMPAL Research Group, Idiap Jordi Gol and CIBERFes, Universitat Autonoma de Barcelona and Instituto de Salud Carlos III, Barcelona, Spain*

Background: The lifetime risk of knee and hip replacement following a primary care diagnosis of knee or hip osteoarthritis is unknown and overly negative beliefs about prognosis act as a barrier to implementing recommended management strategies.

Objectives: To estimate lifetime risk of knee and hip replacement following a GP diagnosis of osteoarthritis and assess how this risk varies with patient characteristics.

Methods: Primary care and linked hospital data from Catalonia, covering 2006 to 2015, were used. Study participants had a newly recorded GP diagnosis of knee or hip osteoarthritis. Parametric survival models were specified for risk of knee/hip replacement and death following diagnosis. Survival models were combined and extrapolated using a Markov model and lifetime risk estimated for the average patient profile. The effects of age at diagnosis, sex, comorbidities, socioeconomic status, body mass index (BMI), and smoking on risk were assessed.

Results: 48,311 individuals diagnosed with knee osteoarthritis were included with a median follow-up of 4.3 years (IQR: 2.1 to 6.5) and of whom 2,561 underwent knee replacement. Respective figures for hip osteoarthritis were 15,105 individuals diagnosed with a median follow-up of 3.8 years (IQR: 1.8 to 6.1) and 1,247 hip replacements. The average participant's lifetime risk for knee replacement was 30% (95% CI: 25% to 36%) and for hip replacement was 14% (10% to 19%). Notable patient characteristics influencing lifetime risk were age at diagnosis for knee and hip replacement, sex for hip replacement, and BMI for knee replacement. BMI increasing from 25 to 35 was associated with lifetime risk of knee replacement increasing from 24% (20% to 28%) to 32% (26% to 37%) for otherwise average patients.

Conclusion: Knee and hip replacement are not bound to happen for most after a GP diagnosis of osteoarthritis, with average lifetime risks of less than a third and a sixth, respectively. Patient characteristics influence lifetime risks with, most notably higher BMI associated with a meaningfully increased risk of knee replacement.

Disclosure of Interests: : Edward Burn: None declared, David W Murray Grant/research support from: Grants from Zimmer Biomet, Consultant for: Personal fees from Zimmer Biomet, Gillian A Hawker: None declared, Rafael Pinedo-Villanueva: None declared, Daniel Prieto-Alhambra Grant/research support from: Grants from Amgen, UCB Biopharma and Servier outside the submitted work, Consultant for: UCB Biopharma, Speakers bureau: Amgen

DOI: 10.1136/annrheumdis-2019-eular.5401