Conclusion: Findings indicate a significantly greater one-year treatment effect of analgesic use that lowered pain severity in persons with or at risk for symptomatic knee OA who also had depression. Thus, knee OA patients with depression may derive more benefit from analgesic treatment for chronic pain than non-depressed patients, perhaps because their pain is undertreated in routine clinical practice.

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THU0450 QUALITY OF LIFE OF PATIENTS WITH A COMBINATION OF SARCOPENIA AND OSTEOARTHRITIS OF LOWER EXTREMITY

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Background: In accordance with the updated recommendations of the EWGSOP (2018), sarcopenia is a muscle disease (muscle failure) rooted in adverse muscle changes that accrue across a lifetime [1]. Sarcopenia and osteoarthritis significantly affect the self-esteem quality of life which is associated with a decrease in muscle strength and muscle performance, falls, joint pain [2]. In 2015, the SarQoL[®] questionnaire (Sarcopenia and Quality of Life, www.sarqol.org) was developed, specific to patients with sarcopenia. Improvement of quality of life should be the priority of any interventions to prevent and treat osteoarthritis and sarcopenia in the ageing population [3].

Objectives: Perform quality of life analysis in patients with osteoarthritis and sarcopenia.

Methods: Prospective study of 159 women, mean age 74 ± 13.3. Sarcopenia was diagnosed according to the algorithm proposed by the European Working Group on Sarcopenia in Older People (EWGSOP, 2010). Life quality assessment was performed using EQ-5D questionnaires and a specific questionnaire in patients with sarcopenia SarQoL.

Results: 31.45% of people with OA older than 65 years had sarcopenia. The results of the study showed a statistically significant decrease in overall health on the questionnaire EQ-5D in patients with sarcopenia compared with patients without sarcopenia (0.48 ± 0.22 points and 0.74 ± 0.27 points, respectively, p < 0.01) and no differences according to the EQ-VAS scale in the studied groups (p > 0.05). The decrease in the general health status of EQ-5D in patients with OA sarcopenic compared with non-sarcopenic is associated with a restriction of the usual daily activities: in 70% (95% CI: 55.4-82.1) and 52.3% (95% CI: 42.5-61.9) respectively, (p < 0.01). In patients with OA, reduced global SarQoL in sarcopenic subjects compared to non-sarcopenic ones: 50.65±14.23 vs. 75.10±14.46, p<0.001. Significantly lower scores for all domains were found in patients with OA sarcopenic compared with non-sarcopenic patients (p<0.001).

Conclusion: In patients with OA sarcopenic, the quality of life is worse than that of non-sarcopenic due to a decrease in habitual daily activities, probably associated with low muscle strength.

REFERENCES:

- [1] Cruz-Jentoft AJ, Bahat G, Bauer J, et al. Guidelines. Sarcopenia: revised European consensus on definition and diagnosis on definition and diagnosis. Age and Ageing 2018; 0: 1–16. doi: 10.1093/ageing/afy169
- [2] Beaudart C., Biver E., Bruyère O. et al. Assessment of Quality of Life in Musculo-Skeletal Health. Aging Clin Exp Res. 2018 May; 30(5): 413–418
- [3] Hoops ML, Rosenblatt NJ, Hurt CP, Crenshaw J, Grabiner MD. Does lower extremity osteoarthritis exacerbate risk factors for falls in older adults? Womens Health (Lond Engl). 2012;8(6):685–96
- [4] Beaudart C, Biver E, Reginster J-Y, et al. Development of a self-administered quality of life questionnaire for sarcopenia in elderly subjects: the SarQoL. Age Ageing. 2015; 44 (6):960–6

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THU0451 CHONDROITIN SULFATE USE AND INCIDENCE OF CANCER: A LONGITUDINAL ANALYSIS OF THE OSTEOARTHRITIS INITIATIVE DATA

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Background: Chondroitin sulfate (CS) is widely used nutritional supplement for the treatment of osteoarthritis. There is growing *in vitro* evidence that CS may play a role in oncogenesis and metastasis of several solid tumors including melanoma [1] and breast cancer [2]. The data evaluating pro-oncogenic effects of CS in humans are lacking.

Objectives: To assess influence of CS use on incidence of cancer.

Methods: For the current study we used 6-year longitudinal data obtained from the Osteoarthritis Initiative (OAI) progression (n= 1390) and incidence (n = 3284) subcohorts, which are publicly available at <https://oai.nih.gov>. To reduce the risk of bias, only participants who did not take CS at baseline were included in the analysis (a “new-user” design). Incident cancer was defined as an occurrence of self-reported cancer, other than skin cancer, leukemia or lymphoma. The information on self-reported cancer was collected from the Charlson Comorbidity Index. CS users with cancer were defined using the following criteria (1) a person who used CS for at least 6 months (2) chondroitin use was at least 1 year before the incident self-reported cancer. For CS users without a cancer, the duration of CS use had to be at least 6 months. All other participants were classified as non-users. To examine the cancer risk for CS users compared with non-users, we calculated the incidence rate ratios (IRRs), adjusting for age (2-year age groups), using the Mantel-Haenszel test.

Results: A total of 3167 participants neither having cancer nor taking CS at baseline were included in the analysis. There were 570 (21.95%) new users of CS. We identified 160 (6.2%) and 37 (6.5%) cases of incident self-reported cancer in the non-users and users groups, respectively. The adjusted IRR for the association between CS use and cancer was 0.22 (95% CI 0.77-1.62) which was not statistically significant (p = 0.64).

Conclusion: CS use was not associated with excess overall incidence of self-reported cancers. Nonetheless, given the strong *in vitro* evidence of CS pro-oncogenic effects on several types of tumors there is a need for further epidemiological data evaluating CS effects on specific kinds of cancer.

REFERENCES:

- [1] Lin R, Xia S, Shan C, Chen D, Liu Y, Gao X, Wang M, Kang HB, Pan Y, Liu S, et al: The Dietary Supplement Chondroitin-4-Sulfate Exhibits Oncogene-Specific Pro-tumor Effects on BRAF V600E Melanoma Cells. Mol Cell 2018, 69(6):923-937 e928.
- [2] Cooney CA, Jousheghany F, Yao-Borengasser A, Phanavanh B, Gomes T, Kieber-Emmons AM, Siegel ER, Suva LJ, Ferrone S, Kieber-Emmons T, et al: Chondroitin sulfates play a major role in breast cancer metastasis: a role for CSPG4 and CHST11 gene expression in forming surface P-selectin ligands in aggressive breast cancer cells. Breast Cancer Res 2011, 13(3):R58.

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THU0452 PREVALENCE OF AXIAL OSTEOARTHRITIS IN SPAIN: EPISER-2016

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Background: Osteoarthritis (OA) is a heterogeneous group of diseases with common clinical and radiographic manifestations involving the peripheral and axial skeletal. OA is the most prevalent rheumatic disease however, there are very few publications focused in axial OA. In 2016, the Spanish Society of Rheumatology (SER) started a population descriptive study (EPISER 2016) to analyze the prevalence of 13 rheumatic diseases

in Spain, including peripheral (hip, knee and hand) and axial (cervical and lumbar spine) OA.

Objectives: To estimate in adult population the prevalence in Spain of symptomatic axial OA (cervical and lumbar spine) and associated factors.

Methods: EPISER 2016 study is a cross-sectional, population-based descriptive study. To estimate the OA prevalence, adult population aged 40 or older was selected. The initial recruitment was made through by a call center. Participants who met the premises of an initial screening based on symptoms were also identified. In a second phase rheumatologists confirmed the diagnosis. The axial OA diagnostic criteria to confirm new diagnosis were both clinical and radiographic criteria. Clinical criteria: mechanical pain longer than 3 months of evolution and stiffness of less than 30 minutes or absence of it; and radiographic criteria: vertebral osteophytes or reduction of intervertebral space with sclerosis of vertebral plate and sclerosis in interapophysary joints. To confirm the diagnosis, it was necessary that both clinical criteria and at least one radiographic criteria were met.

Figure 1: Prevalence of OA in Spain

	GLOBAL	PERIPHERICAL	AXIAL
40-49	125 (12.8)	53 (8.2)	91 (13.7)
50-59	242 (24.7)	131 (20.2)	167 (25.2)
60-69	257 (26.3)	181 (27.9)	189 (28.5)
70-79	201 (20.6)	158 (24.3)	127 (19.1)
≥ 80	153 (15.6)	126 (19.4)	90 (13.6)
Women	730 (74.6)	487 (75)	515 (77.6)
Northern	259 (26.5)	172 (26.5)	177 (26.7)
Mediterranean	378 (38.7)	268 (41.3)	247 (37.2)
Centre	341 (34.9)	209 (32.2)	240 (36.1)
Rural	212 (21.7)	145 (22.3)	135 (20.3)
Urban	766 (78.3)	504 (77.7)	529 (79.7)
Basic studies	611 (62.6)	431 (66.4)	425 (64)
Medium	207 (21.2)	122 (18.8)	138 (20.8)
Higher	158 (16.2)	94 (14.5)	101 (15.2)
Normal weight	266 (27.2)	149 (23)	192 (28.9)
Under weight	4 (0.4)	2 (0.3)	2 (0.3)
Overweight	405 (41.4)	260 (40.1)	267 (40.2)
Obesity	229 (23.4)	175 (27)	157 (23.6)
Non smoker	581 (57.4)	387 (59.6)	383 (57.7)
Former smoker	259 (26.5)	177 (27.3)	165 (24.8)
Smoker	158 (16.2)	85 (13.1)	116 (17.5)

Abstract THU0452 – Figure 1

Results: The sample of the EPISER study was 3,336 subjects ≥ 40, of whom 978 had peripheral or axial OA. The mean age was 64.72 years, 730 were women, 62.6% had basic education, 64.8% were overweight or obese and 83.9% were ex-smokers or non-smokers (Figure 1). The prevalence of global OA (peripheral+axial) was 29.35%. Prevalence of peripheral and axial OA was 19.62% and 19.17% respectively. The characteristics of patients with peripheral and axial OA follow similar patterns. Both types of OA are more frequent in women with basic education levels. Regarding age, there are more patients with axial osteoarthritis between 40-49 years than with peripheral OA. Obesity or overweight are more strongly associated with peripheral OA.

Figure 2: Multivariate analysis of axial OA

	CERVICAL OA		LUMBAR OA	
	p value	OR (TI 95%)	p value	OR (TI 95%)
40-49				
50-59	<0.001	2.047 (1.387-3.022)	<0.001	2.000 (1.438-2.781)
60-69	<0.001	3.347 (2.270-4.934)	<0.001	3.228 (2.319-4.494)
70-79	<0.001	2.337 (1.495-3.854)	<0.001	3.200 (2.223-4.607)
≥ 80	<0.001	2.916 (1.751-4.854)	<0.001	4.049 (2.667-6.148)
Women	<0.001	2.241 (1.660-3.025)	<0.001	2.324 (1.816-2.973)
Northern				
Mediterranean	0.013	1.489 (1.086-2.026)	0.161	0.832 (0.643-1.076)
Centre	0.007	1.565 (1.132-2.163)	0.036	1.322 (1.019-1.716)
Basic studies				
Medium	0.009	0.659 (0.481-0.902)	0.071	0.788 (0.609-1.020)
Higher	<0.001	0.431 (0.304-0.613)	<0.001	0.433 (0.322-0.583)
Normal weight				
Under weight	0.84	0.857 (0.192-3.821)	0.998	<0.001
Overweight	0.208	1.197 (0.905-1.584)	0.001	1.528 (1.201-1.945)
Obesity	0.002	1.679 (1.209-2.332)	<0.001	2.490 (1.881-3.295)

Abstract THU0452 – Figure 2

Prevalence of cervical OA was 10.10%. In the multivariate analysis, it was observed that cervical OA is more frequent in women and older subjects, with the prevalence peak between 60-69 years. It is also more

frequent in subjects with obesity and in subjects with a basic education level (Figure 2). OA cervical prevalence is lower in subjects from northern Spain than in population from the Mediterranean area (including the Canary Islands) and central Spain. Smoking, living in a rural or urban environment or having been born abroad were not associated with cervical OA.

Prevalence of lumbar OA was 15.52%. Multivariate analysis also showed that lumbar OA is more frequent in women and it increases with age (prevalence peak in ≥80 years). Greater association was observed with obesity or overweight and with basic study levels. Lumbar OA prevalence was higher in population from centre of Spain compared with other areas. Tobacco consumption, living in a rural or urban environment or having been born abroad were not associated with lumbar OA.

Conclusion: EPISER2016 study shows similar prevalence of peripheral and axial OA. Lumbar OA is more prevalent than cervical OA. Axial OA in Spain is more frequent in women, increases with age with a peak between 60-69 years for cervical OA and ≥ 80 years for lumbar OA. Both cervical and lumbar OA are more frequent in patients with obesity or overweight and with basic studies.

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THU0453

PROGRESSION OF PAIN, NUMBER OF PAINFUL AND SWOLLEN JOINTS AND ULTRASOUND DETECTED CHANGES IN THE GROUP OF 133 PATIENTS WITH HAND OSTEOARTHRITIS OVER THREE YEARS

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Background: Hand osteoarthritis (HOA) is a common and frequent cause of pain. HOA is a heterogeneous group of disorders with two main subsets including non-erosive and erosive disease. Few studies demonstrated inflammatory ultrasound changes and more severe clinical symptoms in patients with erosive compared with non-erosive disease, however the results are inconsistent.

Objectives: The aim of this study was to evaluate progression of pain, stiffness, physical impairment and ultrasound features in patients with erosive and non-erosive HOA in a three years longitudinal study.

Methods: Consecutive patients with symptomatic HOA fulfilling the American College of Rheumatology (ACR) criteria were included in this study. Joint pain and swelling were assessed. Patients reported joint pain on 100 mm visual analogue scale (VAS). Pain, joint stiffness and disability were assessed by the Australian/Canadian OA hand index (AUSCAN). Radiographs of both hands were examined, and erosive disease was defined by at least one erosive interphalangeal joint. Synovial hypertrophy and power Doppler signal (PDS) were scored with ultrasound. Synovitis was graded on a scale of 0-3 and osteophytes were defined as cortical protrusions seen in two planes. Patients were examined at baseline and at the first, second and third year of follow-up.

Results: Altogether, 133 patients (14 male) with symptomatic nodal HOA were included in this study and followed between April 2012 and January 2019. Out of these patients, 72 (6 male) had erosive disease. The disease duration ($p<0.01$) was significantly higher in patients with erosive compared with non-erosive disease.

Pain reported on VAS was significantly higher ($p<0.01$) in patients with erosive compared with non-erosive disease at baseline. Progression of pain after the third year of follow up was significantly higher in patients with erosive disease ($p<0.05$). The number of painful and clinically swollen joints ($p<0.05$) was significantly higher in patients with erosive compared with non-erosive disease at baseline. The number of painful and clinically swollen joints remained statistically higher ($p<0.01$) at the third year of follow up in patients with erosive disease.

According to the AUSCAN, patients with erosive compared with non-erosive disease had more pain ($p<0.05$) and stiffness ($p<0.01$) at baseline. Pain ($p<0.05$) and function ($p<0.01$), but not stiffness, worsened in patients with erosive compared with non-erosive disease at the third year of follow up.

US-detected pathologies such as gray-scale synovitis ($p<0.001$), intensity of PDS ($p<0.01$) and number of osteophytes ($p<0.01$) were significantly higher in patients with erosive compared with non-erosive disease at