

female in the Korean population. Further prospective and experimental studies are necessary to identify the impact and mechanisms of association between severe OA and PD in female.

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SAT0534 EFFECT OF SUSTAINED- RELEASE SYMPTOMATIC DRUGS ON PROGRESSION OF KNEE JOINT OSTEOARTHRITIS IN PATIENTS WITH LESS THAN 5 YEARS DISEASE DURATION IN A 5-YEAR PROSPECTIVE STUDY

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Objectives: To assess the effect of sustained release symptomatic drugs chondroitin sulfate (CS) + glucosamine hydrochloride (GH) on progression of knee OA in pts with <5 years disease duration during the 5year follow-up period (FUP).

Methods: This 5-year study included 52 female-patients with primary knee OA (ACR criteria), disease duration did not exceed 5 yrs (mean age=59,1±8,9). On each pts the individual file including 200 parameters was filled. Diagnostic modalities used in each patient included plain radiography of knee joints (gonarthrosis stage was classified using Kellgren J.- Lawrence J. scale), DEXA subchondral portions of the hip and tibia, ultrasound (US) and MRI examination of knee joints. First OA stage was documented in 22 (42,3%)pts, 2nd - in 24 (46,2%), 3d- in 6 (11,5%). During 5 years of FUP 31 (60%) pts were administered the combined CS+GH regimen for more than 6 months a year. OA progression was documented based on radiographic criteria.

Results: During the 5 year FUP radiographic progression (upgrade in radiographic stage) of knee OA was documented in 14 pts (Group 1 - with OA progression), while in 38 pts radiographic stage remained unchanged (Group 2 - without progression). Patients from both groups were comparable in terms of age and disease duration ($p>0,05$). Although, pts from Group 1 with OA progression had more intense knee pain when walking: $60,4\pm 18,3$ vs $48,7\pm 17,8$ mm, $p=0,04$; and higher BMI values: $34,5\pm 4,6$ vs $28,9\pm 4,9$ kg/m², $p=0,001$; US-findings based higher rate of synovitis: 57,1% vs 18,4%, OR=5,9, 95% CI 1,6–22,5, $p=0,009$; bone marrow edema in medial tibia aspect 64,3% vs 13,2%, OR=11,9, 95% CI 2,8–50,3, $p=0,0006$ based on MRI findings. In pts with OA progression DEXA examination identified significantly higher absolute BMD values in the medial condyle of the tibia (0,9 (0,8–1,2) vs 0,8 (0,7–0,8) g/cm², $p=0,001$) as compared to pts from Group 2. Re-examination in 5yrs showed that statistically significant differences between the two groups still remained. Analysis of 5year therapy revealed, that the majority of pts without OA progression (68,4%) were taking combined CS+GH regimens for more than 6 months a year during 5-year FUP, while only 35,7% of pts who progressed (OR=4,3, 95% CI 1,1–16,3, $p=0,03$) managed to adhere to this regimen. Discriminant analysis showed that 5-year intake of combined CS+GH therapy for more than 6 months a year should be considered as a predictor of decreased risk of disease progression, while on the contrary, such symptoms as synovitis, bone marrow edema, and high BMD values in the medial condyle of the tibia should be viewed as predictors and risk factors for knee OA progression in pts with <5 years disease duration. Based on identified factors and their coefficients the authors designed a model (with area under the ROC curve equal to 0,93), allowing to predict the future course of the disease in an individual patient with high accuracy, i.e. 85,7% sensitivity and 84,2% specificity.

Factors	Discriminant function coefficients	ROC-curve (AUC=0,93)
US: synovitis	2,17	
MRI: bone marrow edema	3,19	
BMI in the medial condyle of the tibia	5,19	
CS+GH	-1,03	
Constant	11,83	

The accuracy of prediction based on the variables (factors) was 84,6%.

Conclusions: Use of combined CS+GH regimens for more than 6 months a year during 5 years is an important factor, decelerating the progression of knee OA in pts with <5 years disease duration by the factor of 4. While synovitis, bone marrow edema, and high BMD values in the medial condyle of the tibia are responsible for further OA progression on this group of pts.

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SAT0535 IMPACT OF THE METABOLIC SYNDROME ON THE PREVALENCE, SEVERITY INCIDENCE AND PROGRESSION OF KNEE OSTEOARTHRITIS

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Background: The contribution of metabolic factors on the development of OA has not been fully elucidated.

Objectives: The aim of this work is to analyze the influence of metabolic syndrome in the rate of radiographic incidence and progression of knee osteoarthritis, as well as its impact on the prevalence and severity of the disease.

Methods: For this work we used data from the Spanish cohort PROCOAC (PROgnostic Cohort of OsteoArthritis A Coruña). This cohort consists of subjects that visited the Rheumatology consultations at different time points and comprises 984 subjects at baseline including radiographic knee and hip KL grade, radiographic hand OA status, demographic and clinical data as well as the necessary information to assess the metabolic syndrome at baseline, that is, abdominal circumference (in cm) in addition to at least two of the following parameters: triglycerides above 200mg/dL, low HDL (<35 mg/dL), hypertension and increased glucose blood levels (>110 mg/dL). To assess the severity of the disease, the number of affected joints was coded as 0–1 and 2–3, according to the radiographic information of hands, knees and hips. Appropriate statistical analyses including Cox regression models with Kaplan-Meier survival curves and chi-square contingency tables were performed with SPSS v19.

Results: The mean age of subjects was 63,86 [32–88] years; 75,6% were women. A total of 85% had radiographic hand OA and 11,8% suffered metabolic syndrome at baseline. In those OA patients that experienced radiographic knee OA progression over time (any KL increase from KL₀ at baseline) the metabolic syndrome appeared as a significant risk factor (HR=3.696;95CI:1.085–14.520;p-value=0.037) (Figure 1). Similarly, in those subjects that developed incident radiographic knee OA over time (a new-onset KL grade 2), the metabolic syndrome at baseline also appeared as a significant risk factor with an increased magnitude (HR=12.931;95CI:3.037–55.051;p-value<0.001) (Figure 1). In addition, to have contralateral knee OA at baseline (HR=12.837;95CI:5.044–32.673;p-value <0.001) as well as radiographic hand OA (HR=5.671;95CI:0.854–37.649;p-value=0.07) associates with an increased rate of incident knee OA too. In terms of prevalence and severity of the disease, the metabolic syndrome associates with an increased risk of knee OA (OR=1.865;95% CI=1.080–3.220;p=0.024) as well as with increased number of affected joints, though in a non-significant manner (OR=1.582;95% CI=0.916–2.733;p=0.098)

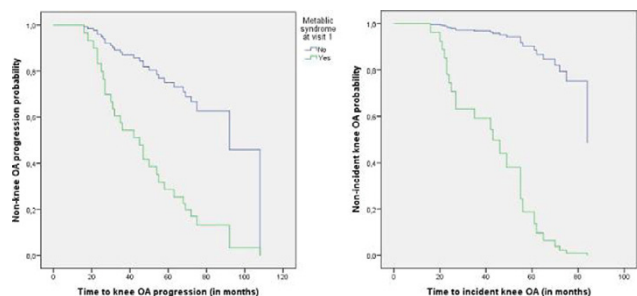


Figure 1. Kaplan-Meier survival curves showing the influence of the metabolic syndrome in the rate of radiographic knee OA progression and incidence over time

Conclusions: The alterations that underlie the metabolic syndrome condition the severity and prevalence of knee osteoarthritis, as well as the rate of incidence and progression of the disease

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SAT0536 AXIAL ALIGNMENT OF THE KNEE – IMPORTANCE IN CARTILAGE REPAIR? HIGH TIBIAL OSTEOTOMY VS. DISTRACTION

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Background: Opening-wedge high tibial osteotomy (HTO) is primarily indicated in treating varus gonarthrosis. The rationale behind HTO treatment of knee