AMG tolerability was good. 15-25% patients had mild dyspepsia. Discontinuation of therapy due to side effects was only in 6 patients (0.93%). The development or worsening of arterial hypertension, as well as other cardiovascular complications, was not observed.

Conclusion: AMG is an effective, well-tolerated NSAID, which is appropriate for long-term treatment of OA, RA and AS.

Disclosure of Interests: None declared

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AB0794 PATIENTS GENOTYPE AND OA TREATMENT EFFICACY

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Background: it is known that some genes (FDPS, LCT, VDR) which determine the calcium, vitamin D and lactate metabolism may have impact on osteoarthritis (OA) development and course, and thus, has a possible influence on OA treatment efficacy.

Objectives: To determine the influence of genetic factors (genotyping of FDPS, LCT, VDR) on the efficacy of standard and modified treatment (with use of the platelet autologous plasma (PAP) in the early stages of knee OA.

Methods: WOMAC index and the frequency of genotype variants for the FDPS, LCT, and VDR genes were studied in 96 patients (57 women, 38 men, 41.7 ± 1.2 years old) with primary knee OA (X-ray stage I-II). All patients had OA exacerbation with no clinical evidence of synovitis. Enrolled patients were divided into 2 groups: the first group consisted of 49 patients (27 women, 22 men, mean age 41.7 ± 1.2 years) who agreed to receive standard OA treatment (NSAID, exercises, orthopedic devices – as needed) and 3 intra-articular PAP injections (2 courses in 12 month, plasma volume 12-15ml/course, total platelet count per injection $1260,24 \pm 22,1 \times 10^9$). The second group - 47 patients with OA who received standard treatment. Both groups were comparable by age, gender, body mass index and initial WOMAC. Genetic parameters and its influence on OA course and treatment efficacy was analyzed during 12 months.

Results: The earliest age (37.2 ± 2.01 years) of clinical manifestation of knee OA was connected to homozygous genotype variants: LCT (relative risk 6.3:1), FDPS (relative risk 6.5:1) and VDR (relative risk 6.8:1). The best positive WOMAC changes was determined in patients with the CC genotype of LCT both in first and second groups. The WOMAC changes showed lower treatment efficacy in patients with CC genotype of FDPS and VDR in both groups, but results of patients who received PAP were better and their remission was longer (in 1.7 times) than in the standard treatment group.

Conclusion: age of knee OA clinical manifestation and the treatment efficacy (both standard and with the use of platelet autologous plasma) has genetic predisposition.

Disclosure of Interests: None declared

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AB0795 IMPACT OF PRIMARY HAND OSTEOARTHRITIS ON MICROSTRUCTURE AND BIOMECHANICS IN FINGER JOINTS

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Background: Primary hand osteoarthritis (HOA) is a heterogeneous disease that is associated with erosive and osteoproliferative changes of the finger joints and progressive functional impairment. Despite these severe changes the effect of HOA on bone mass, microstructure and biomechanics in the affected skeletal regions is largely unknown.

Objectives: To study the effect of HOA on bone microstructure, density and biomechanical properties using high-resolution peripheral quantitative computed tomography (HR-pQCT) of the finger joints and radius.

Methods: HOA patients and healthy controls (HC) underwent HR-pQCT scans of the distal radius and 2nd metacarpal (MCP 2) head. Total, trabecular and cortical volumetric bone mineral densities (vBMD) as well as microstructural and biomechanical properties (failure load) were determined. Failure load and scaled multivariate outcome matrices from distal radius and 2nd metacarpal (MCP 2) head measurements were analyzed using multiple linear regression adjusting for age, sex and functional status and reported as adjusted z score differences for total and direct effects.

Results: 105 subjects were included (76 HC/29 HOA). After adjustment, HOA was associated with significant changes in the multivariate outcome matrix of the MCP 2 head ($p < 0.001$) explained by an increase in cortical vBMD ($\Delta z = -1.07$, $p = 0.02$) and reduction in the trabecular vBMD ($\Delta z = 0.7$, $p = 0.09$). Distal radius analysis did not show an overall effect of HOA however there was a gender-study group interaction explained by reduced trabecular vBMD in males ($\Delta z = 1.23$, $p = 0.02$). HOA was associated with lower failure load [-514 N (95%CI: -1025 , -2), $p=0.05$].

Conclusion: HOA is associated with reduced trabecular and increased cortical bone mineral density and a reduction in radial bone strength. Impaired mobility might be an explanation for this reduction. These results underline the clinical importance of HOA-related functional impairment and indicate that HOA patients should be treated with awareness of increased fracture risk and antiosteoporotic treatment.

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AB0796 DIFFERENCES AND SIMILARITIES OF THE BONE-CARTILAGE UNIT IN PATIENTS WITH PRIMARY OSTEOARTHRITIS AND SECONDARY OSTEOARTHRITIS CAUSED BY RHEUMATOID ARTHRITIS

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Background: Despite distinct aetiologies of joint diseases, the osteoarthritic end-stage of primary osteoarthritis and rheumatoid arthritis are described using similar radiological features. However, primary and secondary osteoarthritis may be different at the bone-cartilage unit depending on the pathogenesis.

Objectives: The main purpose was to investigate the histological differences in the bone-cartilage unit of the hip joint in patients with primary osteoarthritis and patients with secondary osteoarthritis due to rheumatoid arthritis.

Methods: Femoral heads were obtained during arthroplasty from 12 patients with primary osteoarthritis and six patients with secondary osteoarthritis due to rheumatoid arthritis. Twelve femoral heads from healthy age- and sex-matched subjects were obtained post-mortem. Femoral heads were investigated, using stereological methods to provide unbiased quantitative data. The femoral head, articular cartilage, calcified cartilage, subchondral bone, and osteophytes were measured.

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

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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

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