

71 patients accepted zoledronic acid, the others accept other anti-osteoporotic agents. 35 (49.3%) of zoledronic acid had increased creatinine, while 379 (41.3%) of non-zoledronic acid had creatinine changes ($p=0.117$). After adjust variables, zoledronic acid did not increase creatinine ($p=0.291$; OR: 0.750; 95% CI: 0.440–1.279). (Table 1)

Table 1. Risk of increase in renal function in zoledronic acid after adjust variables

	Regression coefficient	S.E.	Wald	P value	OR	95% C.I.for OR	
						Lower	Upper
Zoledronic acid	-0.288	0.273	1.116	0.291	0.750	0.440	1.279
Smoking	0.250	0.343	0.533	0.465	1.284	0.656	2.513
Alcohol	0.025	0.065	0.147	0.702	1.025	0.903	1.164
BMI	0.007	0.017	0.160	0.689	1.007	0.974	1.040
DM	-0.165	0.164	1.022	0.312	0.848	0.615	1.168
HTN	-0.418	0.149	7.856	0.005	0.658	0.491	0.882

Conclusions: Zoledronic acid use did not lead to increase in creatinine as compared with the control group. However it need more cases to confirm this findings.

References:

[1] Miller PD Bone. 2011 Jul;49(1):77–81.

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AB0860 THE PREDICTORS FOR 24 MONTHS EFFICACY OF DENOSUMAB, AN ANTI-RANKL ANTIBODY, ON OSTEOPOROSIS IN PATIENTS WITH RHEUMATOID ARTHRITIS FROM MULTICENTER STUDY (TBCR-BONE)

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Background: Although medication of rheumatoid arthritis (RA) has been improved by early intensive treatment using csDMARDs, tsDMARDs and bDMARDs for decades, treatment of concomitant disease in RA patients, such as osteoporosis (OP), will be more important to improve activity of daily living of RA patients. Although denosumab (DMB), an anti-RANKL antibody, was approved for treatment of OP in Japan in 2013, clinical data in real world is lacking in patients with RA. We reported 12 months efficacy of denosumab on osteoporosis in patients with RA at EULAR 2016 in London¹. Here we report results for 24 months.

Objectives: To investigate the 24 months efficacy of denosumab (DMB) on osteoporosis in patients with rheumatoid arthritis (RA-OP) and to explore predictors of efficacy from multicenter study (TBCR-BONE).

Methods: 59 female cases with RA-OP treated with DMB for 24 months were included in this study. Bone mineral density (BMD) of lumbar spine (LS-BMD) and total hip (TH-BMD) and serum bone turnover markers (P1NP and TRACP-5b) were measured at baseline and every 6 month until 24 months. Spearman's rank correlation coefficient was calculated between %increase of BMD at 24 months and various data (baseline patients' characteristics, parameters of RA disease activity [DAS28-CRP, SDAI, CRP, MMP-3] and bone turnover markers (BTMs) [P1NP and TRACP-5b]). Time averaged data (ta-data) which was averaged data of every 6 month was utilized for analysis with respect to data of RA disease activity and BTMs besides baseline data.

Results: Mean age was 59 years old. Mean RA duration was 16 years. Rates of concomitant prednisolone use was 33.9%. Mean DAS28-CRP was 2.7. 44% of cases had the past history of fracture. Mean FRAX was 28%. Daily teriparatide was used in 11 cases before DMB treatment. %increase of LSBMD at every 6 month was significantly increased (4.7%>6.7%>7.7%>8.3%) and %increase of THBMD

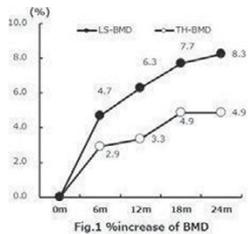


Fig.1 %increase of BMD

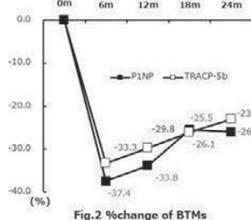


Fig.2 %change of BTMs

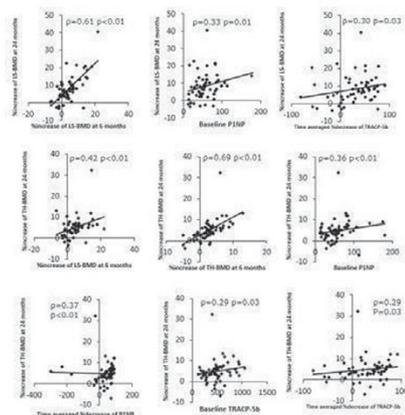


Fig.3 Significant correlation observed between %increase of BMD at 24 months and parameters investigated in this study

at every 6 month was significantly increased (2.9%>3.3%>4.9%>4.9%) (Fig1). %decrease of P1NP and TRACP-5b was 37.4%>33.8%>25.5%>26.0% and 33.3%>29.8%>26.1%>23.1%, respectively (Fig2). Fig3 showed that parameters (correlation coefficient) which were correlated with %increase of LSBMD at 24 months were %increase of LSBMD at 6 months (0.61), baseline P1NP (0.33) and time averaged %decrease of TRACP-5b (0.30). Parameters (correlation coefficient) which were correlated with %increase of THBMD at 24 months were %increase of LSBMD at 6 months (0.42), %increase of THBMD at 6 months (0.69), baseline P1NP (0.36), time averaged %decrease of P1NP (0.37), baseline TRACP-5b (0.29) and time averaged %decrease of TRACP-5b (0.29). Although %increase of BMD at 24 months was not correlated with disease activity of RA, taCRP was significantly correlated with taP1NP (0.57) and taTRACP-5b (0.45).

Conclusions: DMB was effective in RA-OP. Early response of BMD, baseline values of BTMs and response of BTMs were suggested to be the predictors of the efficacy of DMB in RA-OP. Inflammation of RA was correlated with not BMD but BTMs.

References:

[1] Hirano Y et al. The predictors for 12 months efficacy of denosumab, an anti-RANKL antibody, on osteoporosis in patients with rheumatoid arthritis from multicenter study (TBCR-BONE). Ann Rheum Dis2016; 75(Suppl2): 94.

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Crystal diseases, metabolic bone diseases and bone diseases other than osteoporosis

AB0861 EXPRESSION CONTROL BY METHYLATION OF THE TLR1, TLR2, TLR4, IL1B, ALPK1 SLC2A9 AND SLC22A12 GENES IN MONOCYTES OF PATIENTS WITH GOUT

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Background: The gout is an inflammatory multifactorial disorder where the diet, age, sex, absorption regulation of uric acid in kidney and genetic, contribute to the onset of the disease. The balance of uric acid concentration not only depends on metabolism of purines but also on the clearance of uric acid, in which many proteins participate in the reabsorption and transport of urate. Is unknown if the peripheral blood leukocyte cells can change their expression and regulation mechanism of the urate transporters by the presence of uric acid in gout patients [1–4].

Objectives: Analyze changes in gene expression and the methylation pattern of the TLR2, TLR4, SLC2A9, SLC22A12, SLC22A3 and ABCG2 in neutrophils and peripheral blood monocytes from patients with gout and controls

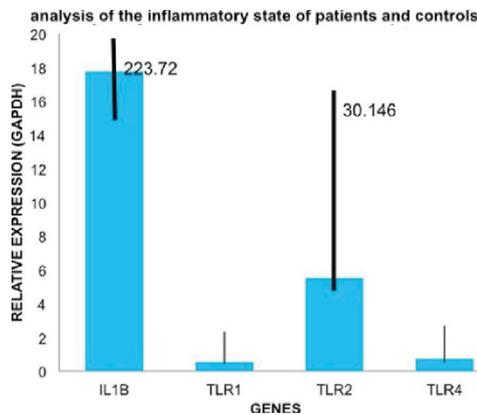
Methods: The isolation of peripheral blood neutrophils and monocytes cells was performed by negative immunomagnetic selection (MACxpress kit, EUA). By flow cytometry were analyzed the previously separate cell populations, mononuclear (MN), polymorphonuclear (PMN) cells and neutrophils (N) (CD15, CD16, CD14). The DNA and RNA extraction was realized with a without columns kit and with Trizol technique. The gene expression analysis will be performed from total RNA by RT-PCR kit (Promega). Methylation analysis will be carried out the bisulfite conversion (ABCAM) from total DNA and HRM-PCR. For both studies, gene expression and methylation analysis are designed specific primers

Results: The biggest difference between asymptomatic gout patients (n=12) and controls (n=12), in the biochemical parameters (Table 1), is in the higher levels of uric acid and triglycerides that the patient presents. Actually, we've already evaluated the genetic expression of TLR1, TLR2, TLR4 and IL1b in mononuclear cells of 5 asymptomatic gout patients and 5 controls (Plot 1). Interestingly, IL1b is UP-regulated in sample group by a mean factor of 16.350 and TLR2 is UP-regulated in sample group in comparison to control group by a mean factor of 3.686.

Table 1. Characteristics of patients and controls

	Patients	Controls
Participants (n)	12	12
Age (years)	40.75	29.75
BMI (kg/m ²)	29.27	24.05
SM n (%)	8.33	0
Hypertension, n (%)	58.33	0
Urate (mg/dL)	8.35	4.87
Glucose (mg/dL)	84.83	81.33
Cholesterol (mg/dL)	196.33	175.25
Triglycerides (mg/dL)	276.67	109.42
Creatinine (mg/dL)	1.02	0.79

Conclusions: The asymptomatic patients with a higher mean of uric acid (8mg/dL) and triglycerides (145.60 mg/dL) had a higher expression of IL1b and TLR2 compared to controls.



References:

- [1] Neogi T., et al. Gout Classification. Criteria An American College of Rheumatology/European League Against Rheumatism. *Arthritis & Rheumatology*. 2015.
- [2] Busso N., et al. Review Mechanisms of inflammation in gout. *Arthritis Research & Therapy* 2010.
- [3] Mitroulis I., et al. Review, Neutrophils, IL-1 β , and gout: is there a link. *Semin Immunopathology*. 2013.
- [4] Partial HPRT. Deficiency with a Novel Mutation of the HPRT Gene in Combination with Four Previously Reported Variants Associated with Hyperuricemia. *International Medicine*. 2014.

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AB0862 THE SENSITIVITY OF THE DOUBLE CONTOUR SIGN IN HAND JOINTS WOULD BE BETTER BY THE DORSAL SURFACE EXAMINATION

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Objectives: To compare the prevalence of ultrasonographic gout specific sign double contour between the dorsal and palmar surfaces of the hand joints.

Methods: This is a cross-sectional study which includes 15 patients with chronic gout, defined according to the American College of Rheumatology criteria (ACR 1977). Ultrasound (US) examination was performed using a high-frequency linear probe (Toshiba Xario[®], frequency (8–14 MHz)) in B and Doppler modes. 560 articular sites were studied at their dorsal and palmar surfaces. We compared the prevalence of the hyperechoic band over the superficial margin of the articular cartilage described as a double contour (DC) between the dorsal and palmar surfaces at each site studied.

Results: The mean age at onset was 54.7 \pm 12.6 years, and the median diagnosis duration was 0 (0.3) years.

The results of the US examination are summarized in Table 1

Table 1. comparison of double contour prevalence between the dorsal and palmar surfaces of wrist, MCP, PIP and DIP joints in the studied population

Joints (N=540)	Dorsal surface (%)	Palmar surface (%)	P
Wrist joints (N=120)	12,6	7,3	<0.001
Radiocarpal (N=30)	20	6,7	0,6
Ulnocarpal (N=30)	13,3	6,7	0,01
Scaphotrapezial (N=30)	3,3	13,3	0,8
Trapeziometacarpal (N=30)	13,3	3,3	0,1
MCP (N=150)	8	6,6	<0.001
MCP 1 (N=30)	3,3	10	0,1
MCP 2 (N=30)	13,3	6,7	0,014
MCP 3 (N=30)	6,7	6,7	0,002
MCP 4 (N=30)	6,7	0	<0.001
MCP 5 (N=30)	10	10	<0.001
PIP (N=150)	4	7,3	<0.001
IP (N=30)	3,3	10	0,1
PIP 2 (N=30)	6,7	3,3	0,9
PIP 3 (N=30)	6,7	13,3	0,01
PIP 4 (N=30)	3,3	10	0,1
PIP 5 (N=30)	0	0	<0.001
DIP (N=120)	0,8	3,3	0,033
DIP 2 (N=30)	0	0	<0.001
DIP 3 (N=30)	3,3	3,3	0,002
DIP 4 (N=30)	0	3,3	<0.001
DIP 5 (N=30)	0	6,7	<0.001

Conclusions: Our study suggests that globally, DC predilect significantly in dorsal than in palmar surfaces of hand joints. These results should be verified on a larger population.

Disclosure of Interest: None declared

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AB0863 THE POPLITEUS GROOVE IN THE LATERAL FEMORAL CONDYLE: A SHELTER FOR MONOSODIUM URATE CRYSTALS?

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Background: Gout is a crystal related arthropathy characterized by deposition of monosodium urate (MSU) crystals at articular and periarticular structures. Ultrasound (US) has gained an important role in the diagnosis of gout due to its capability to clearly detect various expressions of MSU crystal depositions in joints, tendons and bursae [1]. The popliteus tendon inserts in a depression on the outer side of the lateral femoral condyle. It has a close connection to the lateral meniscus and is surrounded by the popliteal recess which is in direct communication with the knee joint cavity [2].

Objectives: To evaluate the prevalence of US findings indicative of MSU crystal deposition at the popliteus groove in patients with gout.

Methods: Consecutive patients with gout, diagnosed according to the 2015 ACR/EULAR criteria, and disease controls diagnosed according to the corresponding diagnostic/classification criteria were enrolled. All the patients underwent a bilateral US examination (carried out using a Logiq 9 US system working with a linear probe operating at 15 MHz) at the popliteus groove level. The US examination was performed with the patient lying supine on the examination bed. A knee flexion of approximately 45° was necessary to visualize the popliteus groove in the lateral aspect of the femoral condyle just deep to the proximal part of the lateral collateral ligament. The following US abnormalities indicative of MSU crystal depositions were evaluated: isolated shining dots, aggregates (heterogeneous hyperechoic foci that maintain their persistent high degree of reflectivity which occasionally may generate posterior acoustic shadow) and tophi (inhomogeneous hyperechoic/hypoechoic material surrounded by a small anechoic rim which may generate posterior acoustic shadows).

Results: We enrolled 17 patients with gout and 22 disease controls: 9 calcium pyrophosphate deposition disease (CPPD), 8 rheumatoid arthritis and 5 psoriatic arthritis. A total 78 popliteus groove were examined by US. US findings indicative of MSU crystal deposition were detected in at least one knee in 13 out of 17 gout patients (76.5%) and in 7 out of 22 controls (31.8%). Table 1 shows the prevalence of the US abnormalities indicative of MSU crystal deposition in the two groups. Six out of the 10 US abnormalities (60%) found in controls were detected in CPPD patients.

Table 1

	Gout	Controls
Patients	17	22
Popliteus grooves assessed by US	34	44
Popliteus grooves "positive" for US findings indicative of MSU crystal depositions	23 out of 34 (67.6%)	10 out of 44 (22.7%)
Isolated shining dots	9 out of 23 (39.1%)	8 out of 10 (80%)
Aggregates	8 out of 23 (34.8%)	2 out of 10 (20%)
Tophi	6 out of 23 (26.1%)	0 (0%)

Conclusions: These preliminary results suggest that the popliteus groove could be regarded as a sentinel area for detecting MSU crystals. These findings should lead to further investigations aimed at identifying the factors and associated with MSU crystals deposition at popliteus groove level.

References:

- [1] Neogi T, Jansen TLTA, Dalbeth N, et al. 2015 Gout Classification Criteria: An American College of Rheumatology/European League Against Rheumatism Collaborative Initiative. *Arthritis Rheumatol* 2015;67:2557–68.
- [2] Jadhav SP, More SR, Riascos RF, et al. Comprehensive review of the anatomy, function, and imaging of the popliteus and associated pathologic conditions. *Radiographics*. 2014 Mar-Apr;34(2):496–513.

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AB0864 SENSITIVITY AND SPECIFICITY OF SONOGRAPHIC DETECTION OF URATE CRYSTAL DEPOSITS IN HYALINE CARTILAGE IN PATIENTS WITH GOUT IN YEARLY STAGE

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Background: In some cases differential diagnosis between yearly gouty arthritis and other types of arthritis is very difficult. In 2015 the sonographic detection of urate crystal deposits in hyaline cartilage as a new criterion was included in set of classification criteria of gout [1]. But diagnostic value of that ultrasound marker in first month of disease is underinvestigated.

Objectives: To investigate sensitivity and specificity of sonographic detection of gouty hyperechoic deposits in hyaline cartilage in patients with gout in comparison with other signs of gout in debut of arthritis.

Methods: The 104 patients with yearly arthritis (duration of symptoms less