THU0411 TOPHUS BURDEN. CLINICAL EVALUATION DURING 3 YEARS FOLLOW-UP IN GRESGO COHORT

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Background: Tophus burden (TB) was proposed by OMERACT as mandatory domain for chronic gout studies. Image methods although useful, frequently are not available in daily clinical practice.
Objectives: To evaluate TB clinically in a cohort of gout patients during 3 years follow-up.
Methods: We analyzed baseline and follow-up data (6, 12, 18, 20, 24, 30 and 36 months) of patients with gout (ARA/CGD/ACR-EULAR) from the GRESGO cohort; this analysis includes the patients with ≥1 clinical nodule(s) considered as tophi in the baseline visit. Index tophi size (ITS) was considered as the longer axis of the bigger tophi. TB evaluations: 1) Tophi number (T); 2) ITSt (cm) measured with tape; 3) ITSca (cm), measured with caliper; 4) ITSco, measured with compass. 5) Index tophi hardness (ITh) or consistency, by VAS (0: very soft-10 hard as a rock). This protocol was approved by the local IRB and patients signed and informed consent for their participation.
All the patients received treatment for gout and associated diseases according to published guides and available drugs. The evaluations were done by the same group of physicians (Rheumatologists and Residents). Variables: TB measures, demographic, clinical and biochemical variables. HAQ and EUROQoL and VAS for pain and general health. Inter/intraobserver variability were evaluated. Statistical analysis: t test, X2, r, kappa, Friedman and multiple correlation.
Results: 298 patients; 97%males, 203 (68%) tophaceous gout, age, age at onset and duration of the disease were: 46.4±12.7 32.4±12.4 and 14.7±9.3 years respectively. Available ULT: Allopurinol and probenecid, colchicine as prophylaxis. Mean allopurinol dose prescribed at baseline visit was 346.9±154 mg/d and 550±205 mg/d 3 years later.TB values (see table). Index tophi size had r>0.93 among the 3 evaluations (ITSt, ITSca, ITSco) and r<0.3 with ITh. Inter and intraobserver variability was 0.8 and 0.9 respectively; there was significant improvement *(p<0.001) in ITS, sUA, painful, swollen, limited to motion joints, HAQ, EuROQoL, VAS pain, VAS health (patient and physician) also improved significantly.

	Baseline	6mo	12mo	18mo	24mo	30mo	36mo
ITSt*	6.4±3.7	5.9±3.7	5.6±3.7	5.7±3.9	5.2±4.0	5.6±3.3	4.5±3.3
ITSca	5.1±2.8	4.6±2.7	4.7±2.6	4.7±2.9	4.4±2.7	4.6±2.4	3.6±1.9
ITSco	5.1±3.0	4.6±2.8	4.7±2.7	4.9±3.0	4.3±2.8	4.6±2.5	3.8±1.8
ITh	7.3±1.7	6.8±1.9	7.1±1.6	6.7±1.9	6.5±1.8	6.6±2.0	6.3±1.6
HAQ*	0.6±0.7	0.4±0.5	0.3±0.5	0.4±0.4	0.3±0.4	0.4±0.5	0.2±0.4
AGA*	8.3±12	0.8±1.3	0.6±2.6	0.3±0.8	0.2±0.6	0.2±0.4	0.3±0.6
sUA*	8.3±2.2	7.3±2.0	6.8±1.9	6.3±1.9	6.3±2.5	5.5±1.6	5.8±1.8
Allopurinol*	347±154	445±165	477±178	491±180	534±205	504±183	556±193

Values represent mean and SD. *p<0.01 ITS in cm; ITh: VAS in cm. AGA number of acute attacks in the last 6 months. sUA: mg/dL, allopurinol dose mg/day.

Conclusions: In our cohort, ITSt was the best measure for TB evaluation, the 3 ITS measures had a good correlation between them and less with ITh or consistency. Patients with tophaceous gout, improved significantly with allopurinol and probenecid during 3 years follow-up in TB (ITSt) as well according to the other OMERACT proposed domains for chronic gout.
Disclosure of Interest: None declared
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THU0412 TREATMENT WITH NERIDRONATE IN CHILDREN AND ADULTS WITH OSTEOGENESIS IMPERFECTA: DATA FROM OPEN-LABEL, NOT CONTROLLED, THREE-YEAR ITALIAN STUDY

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Background: Osteogenesis Imperfecta (OI) is a rare generalized connective tissue disease. Its main features are skeletal fragility and substantial growth deficiency [1]. Currently, bisphosphonates showed to increase bone mineral density (BMD). A positive effect on prevention of fractures both in adults and in children is reported by some studies, but generally data are still inconsistent [2].
Neridronate is an amino-bisphosphonate licensed in Italy for the treatment of OI.
Objectives: to assess the long-term efficacy and safety of the treatment in patients with OI.
Methods: the patients were divided by age into two groups and observed for 3 years: 55 patients younger than 20 years old and 114 patients older than 20 years old. Neridronate was administered by i.v. infusion at the dosage of 2 mg/kg, up to a maximum of 100 mg at three months intervals. DXA of the lumbar spine, hip and ultradistal radius were evaluated every 6 months. Blood calcium, phosphate, bone turnover markers and fasting urinary calcium/creatinine ratio, were obtained at baseline and every 3 months.
Results: the mean lumbar spine and total hip BMD and BMC significantly increased from baseline up to month 36 in both patients groups. The mean ultradistal radius BMD significantly increased from baseline to any time point in patients younger than 20 years, while, in patients older than 20 years, BMD significantly increased from baseline only at month 18, 30 and 36 respectively. The mean ultradistal radius BMC significantly increased from baseline to any time point in patients younger than 20 years, while there were no substantial or statistically significant changes from baseline to any time point in patients aged older than 20 years. The mean number of fractures observed in the 3 years of treatment was significantly lower than that observed in the 3 years before the start of treatment in both groups (table 1).
Most of AEs were symptoms of an acute phase reaction, which was reported in 47.3% of patients younger than 20 years and in 22.8% of those older than 20 years. Serious adverse events (SAEs) were reported in 19 patients (34.5%) younger than 20 years and in 26 patients (22.8%) aged older than 20 years. None of the reported SAEs in both groups was considered as treatment-related.

Table 1, Results of number of fractures per patient during treatment in the two patient populations

Number of fractures, mean ± SD (range)	Age ≤20 years	Age >20 years
Before treatment (3 years	2.7±2.37 (0–8)	0.6±1.28 (0–8)
During treatment (3 years)	0.9±1.43 (0–7)	0.3±0.56 (0–3)
– Wilcoxon signed rank test p-value	<0.001	0.003

Conclusions: long-term treatment with i.v.neridronate has positive effects on BMD, BMC, bone turnover markers and fracture risk with a good safety profile in both groups.
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THU0413 SERUM URATE AND ITS ASSOCIATION WITH BLOOD PRESSURE AND ENDOTHELIAL DYSFUNCTION IN YOUNG ADULTS

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Background: Both serum urate (sUA) and endothelial dysfunction have been associated with hypertension and cardiovascular disease. Increasing sUA level has been associated with endothelial dysfunction and higher inflammatory markers. To date, however, few studies have examined the relationship between sUA, endothelial dysfunction, and blood pressure (BP) including young and largely healthy individuals.
Objectives: To determine whether there is an association between higher sUA, endothelial dysfunction as measured by flow-mediated dilation (FMD), and BP in young adults.
Methods: We conducted a cross-sectional analysis of baseline data for consecutively enrolled individuals (age 18 – 40 years). Enrollment criteria included baseline systolic BP (SBP) ≥120 and <160 mmHg or diastolic BP (DBP) ≥80 and <100 mmHg, and sUA ≥5.0 mg/dL for men or ≥4.0 mg/dL for women. Endothelial dysfunction measured by FMD, 24- hours ambulatory BP monitoring (ABPM) and sUA level were obtained. Associations between sUA, FMD, and ABPM variables were evaluated using a general linear model. Adjustments for age, gender, race, and BMI were applied after significant univariate results.
Results: 86 participants included in the analysis. Participants recruited had a mean age (±standard deviation) of 28.5±6.9 years, 36% were female, 41% African-Americans, mean BMI was 29.2±6.8 kg/m^2, and mean sUA was 5.9±1.2 mg/dL (n=77, range from 3.9 to 8.5 mg/dL). We found no significant cross-sectional associations between sUA, FMD, and BP variables assessed by ABPM (Table). Participants in the upper tertile of sUA had significantly worse FMD than those in the lower tertiles (Figure). However, this difference was no longer significant after multivariable adjustment age, gender, race, and BMI.

Table 1. Cross-sectional correlation between sUA, FMD, and Ambulatory Blood Pressure parameters

Parameters	r	p-value
sUA and FMD	-0.112	0.351
sUA and SBP	0.037	0.766
sUA and DBP	-0.012	0.924
sUA and MAP	0.056	0.657

Conclusions: In this cross-sectional analysis of young adults, there was no evidence to support an association between sUA levels and endothelial