lowering with allopurinol. This could have important implications for gout treatment, as it would suggest that screening for depressive symptoms might be indicated for treatment success. Additional analyses will address whether this effect can be explained by treatment noncompliance.

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AB0868

ULTRASOUND MONOSODIUM URATE CRYSTAL DEPOSITS IN THE JOINTS OF GOUT PATIENTS CORRELATE WITH THE WORSENING OF THE HEART SYSTOLIC FUNCTION

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Background: The connection between gout and cardiovascular (CV) complications has been investigated a lot. Recent studies demonstrate that higher body urate load is an indicator of increased CV risk.

Objectives: To determine whether ultrasound deposits of monosodium urate (MSU) crystals in the joints of gout patients (pts) correlate with the worsening of the heart systolic function and left ventricular hypertrophy.

Methods: This was a single-center cross-sectional study including 56 consecutive gout pts, 40 males and 16 females, in a mean age 58.9±13.2 years with disease duration 6.42±6.93 years. All of them underwent transthoracic echocardiography and ultrasound examination of the joints of the hands, elbows, knees, ankles and feet. By transthoracic echocardiography, conducted with 2.5 MHz transducer phased array working with pulse Doppler frequency of 2.5 MHz, were measured parameters which are independent predictors of CV risk: left ventricular mass index (LVMI), ejection fraction (EF), fractional shortening (FS) and systolic motion of the myocardium (Sm). Ultrasound studies of the joints were performed with a high-frequency, linear transducer, 4-15 MHz. The existence of double contour sign, tendon MSU deposits, snow storm, tophi and tophi with erosions or a combination of these ultrasound features was assessed. Examinations were done in accordance with the latest published guidelines. Data were analyzed by Kolmogorov-Smirnov, Mann-Whitney, t-test, Kruskal Wallis test and Spearman correlation.

Results: 49(87.5%) of the pts had ultrasound evidence of crystal deposits. Serum uric acid levels were equal in pts with and without MSU deposits in the joints, (p=0.569). Among individuals without ultrasound MSU deposits, pts with MSU findings in one joint area and in those with crystal deposits in two or more joint areas we did not find a difference in the mean values of LVMI (mean±SD; 126.86±21.95 g/m² vs 120.09±31.50 g/m² vs 128.68±35.19 g/m², p=0.761), FS (mean±SD; 37.73±4.62% vs 38.25±3.51% vs 35.40±6.57%, p=0.205) and Sm (mean±SD; 0.27±0.35 m/s vs 0.11±0.02 m/s vs 0.10±0.02 m/s, p=0.266). A tendency of lower EF without reaching significance was detected in subjects with crystal deposits in two or more joints, (p=0.071). The values of LVMI (p=0.295), EF (p=0.396), FS (p=0.566) and Sm (p=0.154) were similar in pts without MSU findings, subjects who had a double contour sign, those with tendon MSU deposits, pts with snow storm, individuals with tophi and in pts with tophi and erosions. However, pts with crystal deposits in the knees and in the tibiotalar joints had lower EF (p=0.047; p=0.049, respectively) and lower FS (p=0.036; p=0.016, respectively) compared to those who had no crystal deposits in these joint areas. Further a weak negative correlation was detected between the number of joints with crystal deposits and EF (r= -0.294, p=0.029) and FS (r= -0.292, p=0.030). Regarding LVMI and Sm no correlation was established with the presence of crystal deposits in the joints (r=0.079, p=0.568 and r= -0.242, p=0.076).

Conclusion: Despite the lack of difference in serum uric acid between pts with and without MSU deposits in the joints, those with MSU findings

in the knees and in the tibiotalar joints had more deteriorated systolic function of the heart in comparison to pts without crystal deposits in these joint areas. A negative correlation existed between the number of joints with crystal deposits and functional pumping indices of the heart. On the other hand, MSU deposits in the knees and in the tibiotalar joints are associated with higher urate load than deposits in the small joints. We suggest that the higher urate load is connected to the worsened pumping function of the heart.

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AB0869

SERUM LEVELS OF ROS PRODUCTS, NO AND ASCORBATE RADICALS IN GOUT PATIENTS ARE NOT ASSOCIATED WITH ARTERIOSCLEROTIC COMMON CAROTID ARTERIES CHANGES AND USE OF XANTHINE OXIDASE INHIBITORS

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Background: Oxidative stress along with chronic inflammation and hyperuricemia links gout to arteriosclerotic vascular changes. Studies examining the connection between the level of oxidative stress and arteriosclerotic carotid arteries changes in gout patients (pts) are not enough.

Objectives: To establish the association between the serum levels of reactive oxygen species (ROS) products, nitric oxide (NO) radicals and ascorbate radicals with intima-media thickness (IMT) and common carotid artery resistive index (CCARI) in gout pts, and to find out whether the connection is more pronounced when tophi are present.

Methods: This was a cross-sectional study including 71 gout pts in a mean age 56.86±11.95 years, 61 males and 10 females (45 without tophi pts and 26 gouty tophi pts). Serum levels of ROS products, NO radicals and ascorbate radicals were determined by ex vivo electron paramagnetic resonance (EPR) study. All EPR measurements were performed on an X-band EMXmicro, spectrometer Bruker, Germany, equipped with Standard Resonator. Spectral processing was done by using Bruker WIN-EPR and Sinfonia software. By applying ultrasound of the common carotid arteries, conducted with 10 MHz linear transducer working with pulse Doppler frequency of 5 MHz, were measured IMT and CCARI. Statistical analyses were done by One-Sample Kolmogorov-Smirnov, Chi-Square, Fisher's exact test, Mann-Whitney, t-test and Pearson correlation.

Results: Gouty arthritis without tophi and gouty tophi pts were age-matched, (p=0.309). The mean values of serum uric acid (p=0.569) and distribution of the subjects with gout attack (p=0.173), smoking (p=0.828), arterial hypertension (p=0.735), dyslipidemia (p=0.646), chronic renal failure (p=0.233) and obesity (p=0.623) was equal in the groups. In the tophi group CRP and the number of pts who had suffered a cardiovascular event were higher (p=0.048; p=0.031). Serum levels of ROS products, NO radicals and ascorbate radicals were comparable in gouty arthritis without tophi and in gouty tophi pts (p=0.783; p=0.521; p=0.651). In the groups no difference was registered in CCARI (p=0.273) but intima-media was thicker in the presence of tophi, (p=0.027). No correlation existed between ROS products, NO radicals and ascorbate radicals with IMT (r= -0.100, p=0.405; r= -0.186, p=0.121; r=0.154, p=0.201). ROS products, NO radicals and ascorbate radicals did not correlate with CCARI (r= -0.110, p=0.359; r= -0.066, p=0.587; r=0.094, p=0.436). Among treated and untreated with Allopurinol pts no difference was found in the mean values of ROS products (p=0.169), NO radicals (p=0.167), ascorbate radicals (p=0.460), IMT (p=0.873) and CCARI (p=0.930). Among treated and untreated with Febuxostat pts the mean values of ROS products (p=0.546), ascorbate radicals (p=0.309), IMT (p=0.842) and CCARI (p=0.100) were similar. A tendency of higher serum NO radicals was established in pts taking Febuxostat in comparison to those not treated with it (p=0.076).

Conclusion: Although between the earlier and the later stage of the disease there was no difference in the level of oxidative stress, the level of chronic inflammation was higher in gouty tophi pts. No connection was found between serum ROS products, NO radicals and ascorbate radicals with arteriosclerotic changes of the carotid arteries and use of xanthine oxidase inhibitors. We suggest that in gout pts chronic inflammation has an important role in the process of atherogenesis.