Abstract AB0870 Table 1. Number of discharges with a principal diagnosis of stroke, by age group and sex, reported to HIPE, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Age Group											
0-29 years	191	193	112	93	136	118	90	94	92	97	89
30-34 Years	62	53	62	65	57	65	56	54	59	56	57
35-39 Years	93	107	119	68	82	75	82	63	98	93	81
40-44 Years	141	153	134	162	152	163	125	123	131	144	158
45-49 Years	215	169	170	205	232	214	198	193	176	249	201
50-54 Years	315	293	277	284	279	299	254	307	289	309	295
55-59 Years	338	386	395	417	393	345	372	415	386	398	413
60-64 Years	467	560	523	508	500	504	492	489	559	565	505
65-69 Years	566	578	585	600	631	643	662	657	667	677	766
70-74 Years	730	709	763	677	712	682	749	782	821	838	778
75-79 Years	886	890	935	937	889	926	845	867	909	862	915
80-84 Years	967	902	975	924	860	959	878	944	912	935	927
85-89 Years	648	695	728	699	703	717	705	695	666	697	702
90 Years and over	278	315	325	363	342	388	354	352	401	411	412
Sex											
Male	2,988	3,066	3,107	3,087	3,071	3,174	3,032	3,198	3,368	3,413	3,499
Female	2,909	2,937	2,996	2,915	2,897	2,924	2,830	2,837	2,798	2,918	2,800
Total	5,897	5,897	5,897	5,897	5,897	5,897	5,897	5,897	5,897	5,897	5,897

Disclosure of Interests: Rada Gancheva: None declared, Atanas Koundurdjiev: None declared, Galina Nikolova: None declared, Mariana Ivanova Goycheva Speakers bureau: Abbvie, Pfizer, UCB, Novartis, Todor Kunderzhiev: None declared, Zlatimir Kolarov: None declared, Veselina Gadjeva: None declared

DOI: 10.1136/annrheumdis-2019-eular.1952

AB0870 IS THE INCIDENCE OF GOUT SIMILAR TO OTHER RISK FACTORS IN PATIENTS PRESENTING WITH STROKE OR MYOCARDIAL INFARCTION?

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Background: Gout is a common form of inflammatory arthritis. The prevalence of gout in Europe is between 0.9-2.5% with rates as high as 4% reported in Ireland.¹ Studies have suggested gout as a risk factor in patients presenting with myocardial infarction (MI) and stroke (CVA). However the incidence gout in patients presenting to hospital with MI or CVA in Ireland has not previously been assessed.

Objectives: The aim of this study was to assess the incidence of gout in patients presenting with CVA and MI in Ireland. A further objective was to explore if the incidence of gout is similar to other risk factors such as hypertension, diabetes mellitus and dyslipidemia in Irish patients presenting with CVA and MI.

Methods: The Hospital In-Patient Enquiry Scheme (HIPE) was used to identify patients admitted with stroke or myocardial infarction from 62 acute public hospitals in Ireland from January 2007 until December 2017. HIPE is a national database which records coded hospital admission and demographic, clinical and administrative data on discharges from, and deaths in, acute public hospitals nationally.² Discharges are coded using the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM), Australian Classification of Health Interventions (ACHI), Australian Coding Standards (ACS), 8th Edition. Age, gender and number of patient admissions with MI or CVA with gout, diabetes, hypertension, peripheral vascular disease (PVD) and hyperlipidemia were recorded.

Results: From 2007 until 2017, 64,867 were admitted with a diagnosis of CVA in Ireland. The age and gender of patients admitted with a principal diagnosis of CVA are outlined in Table 1. 70,628 patients were admitted with MI.

In the CVA population, 14.5% of patients had diabetes. Incidence of gout in patients with CVA (0.7%) was similar to patient with the risk factors of hyperlipidemia (0.91%) and PVD (0.94%).

The incidence of gout in the MI group (0.5%) was lower when compared to the stroke group (0.77%). The presence of diabetes as a risk factor (6.7%) was significantly higher compared to gout (0.5%) in patients admitted with myocardial infarction. Chart one outlines the incidence of each risk factor in patients discharge with a primary diagnosis of MI in Ireland between 2007 and 2017

Conclusion: The incidence of gout in patients presenting with CVA or MI in Ireland was low compared to other risk factors including diabetes. In patients presenting with MI then incidence of gout is lower than in patients presenting with CVA.

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Chart 1: Incidence of risk factors in patients with a discharge diagnosis MI, reported to HIPE, 2007-2017

Figure 1

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2019-eular.1302

AB0871 ASSESSMENT OF THE KIDNEYS AND URINARY TRACT DYSFUNCTIONS THAT INCREASE THE RISK OF DEVELOPING CHRONIC KIDNEY DISEASE IN PATIENTS WITH GOUT BASED ON COMPLEX RENAL SCINTIGRAPHY

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Background: In 40% of cases patients with gout can develop gouty nephropathy, the "kidney mask" of gout. The newest version of the technology for systemic examination of nephrourological status based on complex renal scintigraphy (SENS-CRS) has been developed at the «N.N. Blokhin National Medical Research Center of Oncology». SENS-CRS at the lowest doses of radiation (0.6 mSv per adult) allows for an in-depth differential analysis of dysfunctions of the renal parenchyma, upper and lower urinary tract which increase the risk of chronic kidney disease (CKD) development.

Objectives: To assess early signs of CKD risk development in patients with gout by SENS-CRS technology.

Methods: We examined 66 patients with gout. 95% were men (average age 54±9 years). Duration of gout was 8 [4; 11] years. All patients had chronic gouty arthritis, 30% of patients had tophi. SENS-CRS was carried out on a 2-detector γ -camera with simultaneous recording in 2 projections. In studies of the urinary system domestic radiopharmaceutical (RP) ^{99m}Tc -technetate with glomerulo- and 10-15% tubulotropic properties was used. The CRS study consisted of: 1) a basic 21-min functional study; 2) a delayed 21-min study (without the injection of RP) with a preliminary diuresis forcing to identify persistent urodynamic dysfunction.

Results: 16 patients with gout with serum creatinine level of more than 125 $\mu\text{mol/l}$ had established diagnosis of chronic pyelonephritis, glomerulonephritis, urolithiasis, etc. and were allocated into a separate subgroup. In the comparative analysis of these 16 patients and other 50 patients with gout there was reliable distinction only for one indicator D (%), the rate of RP removal from a kidney parenchyma ($p < 0.05$). There was no significant distinctions for glomerular filtration rate by Reberg, the nuclear indicator (G_{ren}) of renal parenchyma concentration function, and other indicators. Renocortical parameter D (%) is one of the earliest highly sensitive markers of intrarenal developments of stagnation at development of serious morphofunctional violations in a parenchyma. In the subgroup of 16 patients the indicator accounted on average $D = 48\% \pm 7\%$ (range 38-55%); in subgroup of 50 patients $D = 63\% \pm 10\%$ (47-89%).

According to the CKD-EPI formula and SENS-CRS technology in the subgroup of 16 patients CKD stage II-III was evaluated. In addition to the sign of broken rate of RP removal from a parenchyma (D) when comparing the 2 phases of CRS there was observed a steady sign of stagnation in a parenchyma and groups of upper and/or lower cups: $ID = G_{\text{calc}}/GC < 1$. Based on the water test which accelerates diuresis there was a sufficient regulation of urostatics in the renal pelvis revealed at the basic test ($IP = G_{\text{pelv}}/GP > 1.0$). This indicated that the functional reserve of the outflow regulation from the kidneys was preserved at these patients.

Conclusion: This functional diagnostics allows one-time control of hemodynamics and concentration function of the parenchyma of each kidney, quantitative and qualitative signs of urodynamic delays in the intra- and post-renal urinary tract. Differentiated analysis SENS-CRS contributes to the timely therapeutic correction as well as referral for consultation to specialists (urologists, nephrologists, gynecologists, etc.).

Disclosure of Interests: Margarita Gromova Speakers bureau: Speaker during conferences in Russian Federation, Vladimir Tsurko Speakers bureau: Speaker during conferences in Russian Federation, Anna Kashkadayeva: None declared, Svetlana Averinova: None declared, Andrey Aliokhin: None declared

DOI: 10.1136/annrheumdis-2019-eular.755

AB0872

OXIDATIVE STRESS MARKER ALLANTOIN IS NOT ASSOCIATED WITH THE CHANGE OF SERUM URIC ACID LEVEL IN PATIENTS WITH SYSTEMIC RHEUMATIC DISEASES AFTER ABROGATION OF SYSTEMIC INFLAMMATION BY TNF INHIBITION

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Background: In patients with gout, the serum uric acid (SUA) is usually lower during acute gouty attacks than during intercritical periods. In a previous study, we have shown that abrogation of systemic inflammation by TNF inhibitors (TNFi) results in an increase in the levels of SUA in patients with systemic rheumatic diseases. We have not found any correlation between the magnitude of change of SUA and CRP or pro-inflammatory cytokines (MCP-1, IFN- α 2, IFN- γ , IL-1 β , IL-6, IL-8, IL-10, IL-12, IL-17a, IL-18, IL-23, IL-33, TNF- α).¹ Another possible mechanism for the lowering of SUA during inflammation may be consumption of circulating SUA in free radical reactions generated during systemic inflammation. Allantoin has been validated as a stable biomarker of oxidative stress in humans.²

Objectives: We aimed to investigate whether the magnitude of change of SUA after starting therapy with TNFi is associated with the change of oxidative stress marker – allantoin in patients with systemic autoimmune rheumatic diseases: rheumatoid arthritis (RA), ankylosing spondylitis (AS), psoriatic arthritis (PsA) and juvenile idiopathic arthritis (JIA).

Methods: A cohort of 94 patients with clinically active chronic inflammatory rheumatic diseases (31 with RA, 33 with AS, 18 with PsA, 12 with JIA) and CRP > 10 mg/L was recruited in the Institute of Rheumatology, Prague. SUA, CRP and allantoin were measured before and after 3 months of treatment with TNFi. Assessment of allantoin in plasma samples was carried out on the Agilent Infinity 1290 system coupled with a Triple Quad 6460 tandem mass spectrometer. For the statistical analysis the ratio between the values at the baseline and values after 3 months of therapy with TNFi were used. We retrieved demographic data and disease characteristics.

Results: The levels of SUA have significantly increased after 3 months of treatment with TNFi (270.5 [78.8] vs. 303.0 [101.5] $\mu\text{mol/l}$, $p < 0.0001$), while CRP (29.4 [27.7] vs. 2.0 [3.8] mg/l, $p < 0.0001$) has decreased. There was no significant change of allantoin before and after 3 months of treatment with TNFi. In the linear regression model, CRP or allantoin had no effect on the magnitude of change of SUA.

Conclusion: The abrogation of systemic inflammation by TNFi results in an increase in the levels of SUA in patients with systemic rheumatic diseases, but the mechanism remains elusive. We have not observed any correlation between the magnitude of change of SUA and CRP or oxidative stress marker allantoin.

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Acknowledgement: This work was supported by the Charles University research grant GA UK No.940517, by the Ministry of Health, Czech Republic (Institute of Rheumatology - project for conceptual development of a research organisation, 00023728) and by the Czech Science Foundation, Grant No 19-18005Y.

Disclosure of Interests: Lenka Hasikova: None declared, Marketa Pavlikova: None declared, Petr Kozlik: None declared, Kveta Kalikova: None declared, Blanka Stiburkova: None declared, Jakub Zavada Consultant for: Genzyme-Sanofi, Glaxo, Pfizer, Abbvie, Speakers bureau: Novartis, Sanofi, Biogen

DOI: 10.1136/annrheumdis-2019-eular.7112

AB0873

ENDOTHELIAL DYSFUNCTION IN PATIENTS WITH GOUT. RELATIONSHIP BETWEEN CARDIOVASCULAR RISK FACTORS

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Background: Patients with gout have a high risk of developing cardiovascular disease based on atherosclerosis. An early marker, and at the same time a risk factor of cardiovascular disease, is a violation of the vasoregulating endothelial activity.

Objectives: To identify the relationship between cardiovascular risk factors and endothelial dysfunction (ED) in patients with gout.

Methods: The study included 80 pts with gout. The criteria for inclusion were 1.Male

2.Age >55 years 3.Interictal period of arthritis 4.Absence of clinical signs of coronary artery disease 5.Absence of drug therapy. Vasoregulating endothelial activity was evaluated in all pts, 52 of them determined the carotid intima-media thickness (C-IMT). Flow-mediated (endothelium-dependent) dilatations (FMD), nitroglycerin-induced (endothelium-independent) dilatation (EID) were assessed by high-resolution ultrasonography (D. Celermajor). A non-invasive ultrasound technique was used to measure C-IMT. All patients were diagnosed with serum total cholesterol (CHOL), subtypes (LDL-C, HDL-C), glucose (GLU), uric acid (SUA), hsCRP. Cardiovascular risk (CVR) was calculated. Statistical analysis was conducted using the applied programs package of descriptive statistics STATISTICA 12.0 (StatSoft.Inc.,USA).

Results: It was found that 41 (51.25%) pts had FMD less than 8%. A correlation was found between FMD and CVR ($r = -0.28$, $p < 0.05$), age ($r = -0.37$, $p < 0.001$), Body mass index (BMI)