- [2] Kitajima, S., Lee, K. L., Fujioka, M., Sun, W., You, J., Chia, G. S. Poellinger, L. (2018). Hypoxia-inducible factor-2 alpha up-regulates CD70 under hypoxia and enhances anchorage-independent growth and aggressiveness in cancer cells. *Oncotarget*, 9 (27), 19123-19135.
- [3] Lee, W. W., Yang, Z. Z., Li, G., Weyand, C. M., & Goronzy, J. J. (2007). Unchecked CD70 expression on T cells lowers threshold for T cell activation in rheumatoid arthritis. *J Immunol*, 179(4), 2609-2615.
- [4] Oflazoglu, E., Boursalian, T. E., Zeng, W., Edwards, A. C., Duniho, S., McEarchern, J. A. Grewal, I. S. (2009). Blocking of CD27-CD70 pathway by anti-CD70 antibody ameliorates joint disease in murine collagen-induced arthritis. *J Immunol*, 183(6), 3770-3777.
- [5] Park, J. K., Han, B. K., Park, J. A., Woo, Y. J., Kim, S. Y., Lee, E. Y., Song, Y. W. (2014). CD70-expressing CD4 T cells produce IFN-gamma and IL-17 in rheumatoid arthritis. *Rheumatology (Oxford)*, 53(10), 1896-1900.
- [6] Ruf, M., Moch, H., & Schraml, P. (2015). Interaction of tumor cells with infiltrating lymphocytes via CD70 and CD27 in clear cell renal cell carcinoma. *Oncotarget*, 4(12), e1049805.

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AB0108B PREVALENCE AND RISK FACTORS INFLUENCING THE DEVELOPMENT OF ARTERIAL HYPERTENSION IN PATIENTS WITH A GOUT

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Background: Cardiovascular diseases (CVD) is the leading cause of death for gout. Arterial hypertension (AH) is a proven CVD risk factor (CVD-RF).

Objectives: To assess the factors influencing on development of an AH in patients with a gout.

Methods: 286 male patients fulfilling Wallace proposed criteria for gout were included in the study: age 51.2 [42.8;59.4] years (ys), disease duration – 6.2 [3.8;12.1] ys, number of joints involved during disease course – 7 [4;12], subcutaneous tophi – in 35% pts, intraosseous tophi – in 44% pts, nephrolithiasis – in 69% pts, abdominal obesity – in 71%. All pts underwent standard clinical examination, C-reactive protein (CRP), total cholesterol (TC), triglycerides (TG), low and high density lipoproteins (LDL/HDL), serum uric acid, serum creatinine, smoking, family history of AH, body mass index (BMI), diabetes mellitus was performed by standard procedure. We estimated the adjusted odds ratio (OR) and 95% confidence interval (95% CI).

Results: There were two groups of patients with AH diagnosed on clinical data: group 1 (with AH) - 244 (85%) pts, group 2 (without AH) - 42 (15%) pts. The 1st group pts were older (52.3[44.5; 61.1] vs 41.9[38.3; 50.1] ys), had longer duration of gout (6.7[3.9; 13.7] vs 4.5[3; 7.9]), a higher number of joints involved during disease course (8[4; 12] vs 5[3; 9]). The frequency of family history of AH (68.3% vs 48.8%), abdominal obesity (55.3% vs 33.3%), nephrolithiasis (71% vs 54.7%), intraosseous tophi (48% vs 21%) was higher in group 1 as compared with group 2, p<0.05. BMI and CRP level was higher in group 1 compared with group 2: 30.2[27.4; 33.1] vs 27.9[26.3; 30.5] kg/m², and 12.7[5.84; 19.2] vs 7.8[3.7;16.4]mg/l, accordingly, p<0.05. We didn't find differences of lipid profile, serum uric acid, and serum creatinine level in 1 and 2 group. We also didn't find differences the frequency of smoking, diabetes mellitus, subcutaneous tophi in both groups (table 1).

Table 1

Parameters	Group 1	Group 2
Uric acid, mmol/l	494[420; 575.8]	466[397.3; 547]
Creatinine, mmol/l	94[84.7; 108]	93[83.8; 102]
TC, mg/dl	225[190; 266.8]	225[190; 251]
HDL, mg/dl	35.2[28; 44]	38[27.5; 46.8]
LDL, mg/dl	152.8[113.5; 182.4]	132.2[103;175.2]
TG, mg/dl	172.5[120; 262.3]	147[94;240]
Subcutaneous tophi,%	36.5	26
Smoking,%	29.9	28.6
Diabetes mellitus,%	17.6	11.9

Data are present in median values and interquartile range, *p<0.05 (nonparametric paired Mann-Whitney U-test).

Abdominal obesity (OR, 1.247; 95% CI, 1.063-1.462), family history of AH (OR, 2.8; 95% CI, 1.5-5.4), disease duration more 10 ys (OR, 4.5; 95% CI, 1.1-19.4), intraosseous tophi (OR, 3.0; 95% CI, 1.4-6.4), increased the risk for AH in patients with a gout.

Conclusion: Majority (85%) of patients with gout had AH. Abdominal obesity, family history of AH, disease duration more 10 ys, intraosseous tophi were associated with an increased risk of AH in pts with a gout.

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Rheumatoid arthritis - etiology, pathogenesis and animal models

AB0109 SYSTEMIC OVEREXPRESSION OF INTERLEUKIN-22 INDUCES EXPRESSION OF THE NEGATIVE IMMUNE-REGULATOR SOCS3 AND POTENTLY REDUCES COLLAGEN-INDUCED ARTHRITIS IN MICE

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Background: High interleukin-22 (IL-22) levels are detected in serum and synovial fluid of rheumatoid arthritis (RA) patients. The increased IL-22 serum levels in RA patients correlated positively with multiple clinical disease parameters like disease activity score (DAS)28 and serum levels of rheumatoid factor. The role of IL-22 in autoimmunity and inflammation appears to be greatly contradictory, being both pro- and anti-inflammatory. Especially the anti-inflammatory properties of IL-22 are not well understood.

Objectives: We aimed to investigate the anti-inflammatory and immune-suppressive effect of IL-22 during experimental arthritis.

Methods: Collagen-induced arthritis was induced in DBA1 mice by immunization and booster with bovine collagen type II (CII). After booster, but before arthritis onset, IL-22 was overexpressed either locally or systemically using an adenoviral construct (AdIL-22) or Luciferase as control (AdLuc). 1x10⁷ plaque-forming units (PFU) of the adenoviruses were injected intra-articularly for local overexpression, or 3x10⁸ PFU was injected intravenously for systemic overexpression in immunized mice, and mice were sacrificed 10 days later. Macroscopic scoring and histological analysis was performed, and mRNA expression and protein production of various pro- and anti-inflammatory mediators was determined in synovial tissue, spleen, and serum.

Results: Local overexpression of IL-22 by injection of AdIL-22 in the knee joint of CII-immunized mice resulted in an unaltered arthritis incidence and severity as compared to the control virus AdLuc. Accordingly, no changes in mRNA expression or protein production were observed in CIA mice locally overexpressing IL-22. In contrast, systemic overexpression of IL-22 potentially reduced disease incidence and severity, which was also confirmed by histological analysis. Systemic levels of IL-1 β , IL-17, GM-CSF and MCP1 were unaltered in mice overexpressing IL-22 systemically. However, these mice showed significantly lower serum levels of IFN γ , TNF α , MIP1 α , and IL-10. Interestingly, the significantly enhanced splenic SOCS3 expression was found to negatively correlate to serum TNF α and MIP1 α levels, which is in line with our hypothesis that that the observed reduction in the cytokine levels is mediated in a SOCS3-dependent manner.

Conclusion: With this study, we revealed clear anti-inflammatory effects of IL-22 overexpression during collagen-induced arthritis, which are completely dependent on the systemic route of administration. Additionally, we were the first to show that this protective effect of IL-22 during experimental arthritis is likely orchestrated via up-regulation of the negative regulator SOCS3.

Disclosure of Interests: None declared

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AB0110 RITUXIMAB INDUCED GRANULOMATOUS HEPATITIS WITH A SARCOIDOSIS LIKE REACTION: A BLINDED TRIAL IN MICE

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Background: Rituximab is useful in patients with rheumatoid arthritis (RA) with persistently active disease despite adequate trials with other disease-modifying antirheumatic drugs (DMARDs).

Objectives: To determine whether the inhibition of the B cell CD20 receptor by rituximab results in acute hepatitis in BALB/c mice.

Methods: Twenty BALB/c mice were studied. Ten mice received subcutaneous (SC) injection of rituximab (0.31 mg per 25g body weight per 0.03 ml normal saline) at 0, 1, 2 and 4 weeks. For the control group, 10 mice received a SC injection of normal saline (NS) (0.03 ml). At the 10th week post injection, the mice were sacrificed, and histopathological studies were conducted.

Results: Of the rituximab-treated group, 1/10 mice died. Liver histology for the rituximab-treated group showed that 7/9 displayed histopathological changes in the lobular cellular infiltrates of eosinophils, lymphocytes and histiocytes, in addition to granuloma formation. In contrast, only minimal inflammation was observed in 3/10 mice in the control group (p=0.051).