The mean age was 59.8 years, and the mean BMI was 30.95. Results: notransferase (ALT), and platelet count. Combines the patient’s age with aspartate aminotransferase (AST), alanine aminotransferase (ALT), total bilirubin (TB), albumin (ALB), and platelet count (PL). We assessed the Fibrosis score (KPA) that measures liver stiffness (E score) and platelet count. Methods: To determine how common hepatic steatosis and fibrosis are in patients with gout, serum uric acid level, and obstructive sleep apnea. Results: 47 gout patients (7 females, 14.9%; 40 males, 85.1%) were evaluated. Consecutive gout patients with gout using FibroScan technology, to evaluate patients with gout.

Methods: We employed FibroScan technology, a validated transient elastography method, to evaluate patients with gout. Consecutive gout patients with insurance coverage were evaluated at one center from 11/1/2016 - 11/12/2021. The study was based on the biopsy of patients with BMI<30. Prospective cohort studies are required to further test the strength of the relationship between gout and BMI.


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HEPATIC STEATOSIS AND FIBROSIS IN PATIENTS WITH GOUT DETECTED BY ELASTOGRAPHY

Keywords: Imaging, Comorbidities, Gout
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Background: Gout is associated with non-alcoholic fatty liver disease (NAFLD), but neither the frequency nor severity of gout in well described. Elastography is a well-established ultrasonic method to evaluate both steatosis and fibrosis in the liver but has not been applied to evaluate gout patients.

Objectives: To determine how common hepatic steatosis and fibrosis are in patients with gout using FibroScan technology.

Methods: We employed FibroScan technology, a validated transient elastography method, to evaluate patients with gout. Consecutive gout patients with insurance coverage were evaluated at one center from 11/1/2016 - 11/12/2021. We assessed the Fibrosis score (KPA) that measures liver stiffness (E score) and the controlled attenuation parameter dB/m (CAP) score that assesses steatosis. In addition, we assessed the four-factor fibrosis (FIB-4) index formula that combines the patient’s age with aspartate aminotransferase (AST), alanine aminotransferase (ALT), and platelet count.

Results: 47 gout patients (7 females, 14.9%; 40 males, 85.1%) were evaluated. The mean age was 59.8 years, and the mean BMI was 30.95 kg/m2. Tophi were present in 11 (26.2% of those with recorded information). The disease’s duration ranged from 0-49 years. Comorbidities included: dyslipidemia (86.7%), diabetes (31.1%), hypertension (63.6%), CHF (12.8%), CAD (12.8%), chronic kidney disease (33.3%), and current alcohol consumption (46.8%). 53.7% (n=29) had hyperuricemia (serum urate (SU) >6.8 mg/dL) and 54.4% had elevations of either ALT or AST. Hepatic steatosis (CAP >338 dB/m) was found in 40 (85.1%) and was not significantly different in males or females (p=0.37) or those with CAP (p=0.87), CAD (p=0.94), hypertension (p=0.17), diabetes (p=0.68), dyslipidemia (p=0.59) or the presence of known liver diseases (p=0.37). CAP correlated with BMI (<0.53, p=0.0001) but not age, SU, glucose, triglycerides, ALT, AST, FIB-4, or Fibrosis scores. By FibroScan, 9 (19.1%) had evidence of fibrosis (E score >7), including one with moderate and 8 with severe fibrosis (cirrhosis). Moderate or severe fibrosis was significantly associated with age (p=0.03) and known liver disease (p=0.003), but not ancestry, gender, BMI, triglycerides, HLD, glucose, gout duration, CHF, CAD, hypertension, dyslipidemia, or diabetes. SU was comparable in those with or without moderate or severe fibrosis (p=0.24). The Fib-4 score was significantly greater in those with severe or moderate fibrosis (3.77) versus those with no or mild fibrosis (1.59, p=0.0045). There was a significant correlation between the Fibrosis score and FIB-4 score (r=0.24, p=0.0009) but not between the Fibrosis score and ALT (p=0.44) or AST (p=0.41).

Conclusion: Hepatic steatosis and fibrosis are common in patients with gout but not associated with typical gout comorbidities. Screening for NAFLD with elastography should confirm the actual frequency of NAFLD in gout and provide a means to manage this comorbidity more effectively.

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POS1088 HEPATIC STEATOSIS IS ASSOCIATED WITH CORONARY ARTERY ATHEROSCLEROSIS IN MEN: RESULTS FROM THE SCAPIS STUDY

Keywords: Cardiovascular disease, Crystal Arthritis
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Background: There is considerable controversy on whether elevated urate levels are independently associated with the development of cardiovascular disease (CVD). Segment involvement score (SIS), as a marker of subclinical atherosclerosis, represents the total number of coronary segments with atherosclerotic plaque, calcified and/or non-calcified, and thus reflects the overall burden of coronary atherosclerosis (CAD). Extent of coronary atherosclerosis as quantified by SIS is a strong, independent predictor of cardiovascular events [1]. Whether urate levels are associated with SIS has not been previously studied.

Objectives: To study the association between hyperuricemia and SIS in the participants of the Swedish Cardiopulmonary Bioimage Study (SCAPIS).

Methods: SCAPIS is a nationwide, population-based study aiming to improve CVD risk prediction. The study included randomly selected individuals aged 50-64 years recruited at six university hospitals in Sweden during the period 2013-2018 (N= 30,000 participants). We used data from SCAPIS Gothenburg (N= 4,949 participants), including urate levels and SIS, measured by computed tomography angiography (CTA). Individuals with known coronary heart disease and/or gout were excluded. Hyperuricemia was defined as urate levels ≥ 405 µmol/L. The association between hyperuricemia and SIS was assessed by multivariable logistic regression analysis. We calculated Odds ratios (OR) and 95% confidence intervals (CI), crude and with adjustments for age, smoking, body mass index (BMI), diabetes, dyslipidemia, and hypertension. A SIS score >0 was considered to indicate the presence of coronary atherosclerosis and was used as the cut-off value.

Results: In total, 2,438 men (mean age, 57.3 years) and 2,511 women (mean age, 57.4 years) were included. Urate levels were higher in men than in women (mean levels, 348 vs 270 µmol/L, respectively). Hyperuricemia was more common in men than in women (18% vs 2%). Age, BMI, and hypertension showed no differences between men and women, while diabetes and dyslipidemia were more common in men than in women (4% vs 2% and 13% vs 9%, respectively). Any CTA-detected atherosclerosis (SIS>0) was found in 1,404 (57.6%) men and 792 (30%) women. Hyperuricemia was significantly associated with SIS in men (OR, 1.3; 95%CI, 1.04-1.6), but not in women (OR, 1.3; 95%CI, 0.72-3.3) in the multivariable logistic regression analysis (Table 1).

Conclusion: Hyperuricemia was independently associated with the presence of coronary artery atherosclerosis, as reflected by SIS, in men but not in women. Findings are compatible with a pathophysiological role of urate in atherosclerosis. Whether the observed difference between sexes reflects biological differences in effect of urate or is explained by other factors, such as later onset of atherosclerosis or less statistical power in women will be examined in follow-up studies.