Nephrolithiasis as a complication of gout: A cross-sectional study with helical computed tomography

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Background: Gout is the most prevalent inflammatory arthritis, secondary to persistent hyperuricemia. It has been associated with development and progression of cardiometabolic diseases and chronic kidney disease. Several studies have shown a relationship between hyperuricemia and history of nephrolithiasis, although cut-off levels for uric acid and other related risk factors are still not well established.

Objectives: To determine the frequency of nephrolithiasis (NL) detected by helical computed tomography (h-CT) and its associated risk factors in patients with gout in a tertiary hospital of São Paulo, Brazil.

Methods: This cross-sectional study, conducted from 2016 to 2017, included 80 patients with a diagnosis of gout, according to the criteria of the ACR/EULAR-2015. They were questioned about the previous history of NL and submitted to h-CT for NL. Two groups were established: with and without NL, and later, unilateral and bilateral lithiasis. Anthropometric data, disease duration, serum uric acid (UA), creatinine, urinary pH (pH) and urinary UA of groups were compared. Statistical analysis included: mean, standard deviation, relative percentages, t-student (UA), creatinine, urinary pH (pH) and urinary UA of groups were compared. Statistical analysis included: mean, standard deviation, relative percentages, t-student, chi-square test and ROC curve. Comparison of time to event-rate was performed by Kaplan-Meier method with log rank test. p < 0.05 was considered statistically significant.

Results: NL was confirmed by h-CT in 30% of patients. However, only 16% reported previous history of NL. Groups with NL and without NL were similar in age (65.96±5.54 and 68.89±9.58 years, p=0.147), disease duration (16.63±11.49 and 11.77±9.74 years, p=0.056) and BMI (29.72±5.09 and 28.82±5.08, p=0.470). The NL group had higher pre-treatment UA compared with patients without NL (9.36±1.09 and 8.80±1.08 mg/dL, p<0.05) and the most acidic pH (5.26±0.42 and 5.74±0.62, p<0.05). In addition, patients with bilateral NL presented higher BMI than unilateral patients (p=0.036). According to ROC curve analysis, the best cutoff value for pre-treatment UA was 8.5 mg/dL, yielding sensitivity and specificity of 75% and 50%, respectively, for predicting NL events in this study. Kaplan-Meyer analysis showed that after 20 years of disease, 55% of patients with pre-treatment AU >8.5 mg/dL had NL, while only 18% of patients with pre-treatment AU =8.5 mg/dL.

Conclusions: Emergency Department visits have increased dramatically in the US over the last 9 years, and this increase is mostly in the 45–64 years age group perhaps reflecting the undermanaged burden of uncontrolled gout. Education, improved recognition and long-term management as well as increased use of preventive strategies is needed.

REFERENCES:

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NEPHROLITHIASIS AS A COMPLICATION OF GOUT: A CROSS-SECTIONAL STUDY WITH HELICAL COMPUTED TOMOGRAPHY

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Background: A trend of earlier onset of gout has been reported even though its incidence increases in a linear fashion with age until 70 years. Dietary factors have been supposed to be contributed to the early onset of gout.

Objectives: To investigate diet characteristics of gout and their impact on the early onset of gout.

Methods: Consecutive gout patients who fulfilled the 2016 ACR/EULAR classification criteria were recruited between Dec 2016 and Dec 2017. A cross-section survey on dietary factors before gout onset was conducted with semi-quantitative diet questionnaire. The questionnaire included alcohol, fructose-containing beverages, soup, animal organs, sea-foods, hotpot, tea and coffee, which impact on...