

Methods: Publications were identified by interrogating electronic databases; Medline & MEDLINE In-Process, EMBASE and the Cochrane Library (accessed 6 Sept 2016). Eligibility criteria included adult patients with a diagnosis of acute/chronic gout or hyperuricemia, with no restriction on publication date, study design or geography.

Results: In total, 59 studies met the pre-defined inclusion criteria and were reviewed; of these, 17 reported the relationship between sUA levels and flares (n=12) and/or tophus status (n=11). Two studies were multinational (North America) and 15 were single country (US [n=10]; Spain [n=2]; New Zealand [n=1]; Germany [n=1]; Japan [n=1]). The majority of studies had a follow-up period of ≤ 1 year, with one reporting 10 years' follow-up. All 12 studies evaluating flares reported that achieving sUA levels ≤ 6 mg/dL was associated with a decreased risk of gout flares, compared with sUA levels >6 mg/dL ($p < 0.05$ in 8 studies). All 11 studies evaluating tophus status reported that achieving sUA levels ≤ 6 mg/dL was associated with improvements in tophus status, compared with sUA levels >6 mg/dL ($p < 0.05$ in 4 studies). The remaining 42 studies reported the impact of urate lowering therapy on sUA levels and gout flares or tophus status, but not the correlation between the parameters. The qualitative results in these studies indicated that increases in sUA levels were associated with an increased risk of gout flares and worsening of tophus status.

Conclusions: Maintenance of sUA levels <6 mg/dL is associated with improvements in tophi resolution and flare reduction in adult patients with gout/hyperuricaemia. Whilst longer-term follow up studies (>5 years) are warranted, this review further supports that decreases in sUA levels are a marker for clinical improvements.

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AB0897 FUNCTIONAL DISABILITY AND HEALTH-RELATED QUALITY OF LIFE IN CHINESE PATIENTS WITH GOUT: A CROSS-SECTIONAL STUDY

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Background: As the most common arthritis in adults, gout is a painful, inflammatory disease that may cause functional disability and decreased health-related quality of life (HRQoL). However, there are currently no known reported studies related to functional disability and HRQoL of gout patients from China.

Objectives: This cross-sectional study aims to investigate the effect of demographic variables, disease parameters, and psychological status on functional disability and HRQoL of Chinese gout patients.

Methods: A self-report survey was administered to 226 gout patients and 232 healthy individuals using the Short Form 36 health survey (SF-36) for HRQoL and the Health Assessment Questionnaire-Disability Index (HAQ-DI) for functional disability. Gout patients were asked to complete the 10 cm Visual Analog Scale (VAS) for total pain, the Patient Health Questionnaire (PHQ-9) for depression, and the Generalized Anxiety Disorder (GAD-7) questionnaire for anxiety. Blood samples were taken to examine the level of uric acid (UA). Independent samples t-tests, Chi square tests, spearman and/or pearson correlation and multiple linear regression were used to analyze the data.

Results: Our results found that individuals with gout have poorer HRQoL compared to healthy controls and the mean disability score was 0.32 (SD 0.54), representing mild disability. SF-36 and almost all components of the SF-36 score were associated with place of residence, hypertension, DM, cardiovascular disease, disease duration, number of flares/last year, total pain, number of tophi, presence of tender joints, colchicines use, corticosteroids use, depression, and anxiety ($p < 0.05$). This variable was also significantly related to the HAQ-DI score ($p < 0.05$). Additionally, there were significant relationships among age, income/year, allopurinol use and HAQ-DI ($p < 0.05$). Stepwise multiple linear regression identified number of flares/last year, place of residence, depression and DM as predictors of functional disability. Disease status (total pain, number of flares/last year, presence of tender joints, cardiovascular disease, colchicine and corticosteroids use) and psychological disorders (depression and anxiety) were significantly accounted for poor HRQoL.

Conclusions: Chinese gout patients experienced mild disability and poor HRQoL. Disease status and psychological status were important risk factors linked to functional disability and HRQoL in Chinese gout population. These data suggest medical personnel should pay more attention to functional disability and HRQoL of gout patients and make suitable interventions to relieve their psychological disorders and finally to reduce their functional ability and improve their HRQoL.

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AB0898 SLEEP QUALITY IS ASSOCIATED WITH ALCOHOL USE AND FUNCTIONAL CAPACITY IN CHINESE PATIENTS WITH GOUT: A CROSS-SECTIONAL STUDY

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Background: Poor sleep quality is common in patients with chronic diseases and may lead to disease aggravation and decreased quality of life. The increasing prevalence of poor sleep in individuals with chronic medical conditions is associated with adverse demographic, clinical, and psychological characteristics. However, there are currently no known reported studies related to the sleep quality of gout patients.

Objectives: This study aims to evaluate the prevalence of poor sleep quality and investigate the contributors of poor sleep in Chinese gout patients.

Methods: A self-report survey was administered to 226 gout patients and 232 healthy individuals using the Pittsburgh Sleep Quality Index (PSQI) for sleep quality, the Patient Health Questionnaire (PHQ-9) for depression, and the Generalized Anxiety Disorder (GAD-7) questionnaire for anxiety. Gout patients completed the 10 cm Visual Analog Scale (VAS) for total pain, and the Health Assessment Questionnaire-Disability Index (HAQ-DI) for functional capacity. Blood samples were taken to examine the level of uric acid (UA). Independent samples t-tests, Chi square analyses, and logistic regression were used to analyze the data.

Results: Our results found that the prevalence of poor sleep (PSQI ≥ 5) was 55.3% and the mean global score of PSQI was 6.69 (SD 3.48) in patients, which were significantly higher than the controls (17.7% and 3.83 (SD 1.88), respectively). There were significant correlations among alcohol use, HAQ-DI, PHQ-9, GAD-7 and sleep quality in gout patients. Patients with yellow rice wine and wine use preferred to have better sleep quality. While, disease stage was associated with hypertension, total pain, number of tophi, presence of tender joints and swollen joints. Meanwhile, logistic regression models identified alcohol use and depression as predictors of poor sleep quality.

Conclusions: More than half of Chinese gout population suffered from poor sleep, which significantly higher than healthy individuals. These findings suggested medical personnel should pay more attention to the sleep quality of gout patients, especially those with depression. Additionally, it is beneficial for the patients with normal UA level to take moderate yellow rice wine and wine to improve their sleep quality.

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AB0899 DEPRESSION AND ANXIETY CORRELATE WITH DISEASE-RELATED CHARACTERISTICS AND QUALITY OF LIFE IN CHINESE PATIENTS WITH GOUT: A CROSS-SECTIONAL STUDY

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Background: Depression and anxiety are common worldwide and may lead to disease aggravation and decreased health-related quality of life (HRQoL). The increasing prevalence of depression and anxiety in gout patients is associated with demographic and gout characteristics. However, there are currently no known reported studies related to the association between HRQoL and depression/anxiety.

Objectives: This cross-sectional study aims to evaluate the prevalence of depression and anxiety and investigate the potential risk factors for depression and anxiety in Chinese gout patients.

Methods: A self-report survey was administered to 193 gout patients and 208 healthy individuals from September 2015 to September 2016. Patients were asked to complete a set of standardized self-report questionnaires [Visual Analog Scale (VAS), Health Assessment Questionnaire-Disability Index (HAQ-DI), Patient Health Questionnaire (PHQ-9), Generalized Anxiety Disorder (GAD-7) questionnaire, Short Form 36 health survey (SF-36)]. Independent samples t-tests, χ^2 analyses, and logistic regression were used to analyze the data.

Results: We found 15% of gout patients had depression, and 5.2% had anxiety, which were significantly higher than the healthy controls (1.4 and 1.0%, respectively). There were significant correlations among education, pain, disease duration, stage of gout, disability, number of tophi, presence of tender joints, HRQoL, and psychological status. Meanwhile, logistic regression analysis identified number of tophi, HAQ-DI, and MH scale as predictors of depression in gout patients. Education, GH, and VT domains were significantly accounted for anxiety.

Conclusions: The prevalence of depressive and anxious symptoms among gout patients was higher than healthy individuals. Education, disability, tophi and HRQoL were important risk factors linked to this disorder in Chinese gout population. These findings suggested medical personnel should pay more attention to the psychological health of gout patients and make objective interventions to relieve their depression and anxiety, especially those with low education level, more than two tophi, severe disability, and poor HRQoL.

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AB0900 SERUM URIC ACID LEVEL VARIATIONS DURING GOUT ATTACKS ARE LINKED NEITHER TO INFLAMMATION NOR TO URIC ACID FRACTIONAL EXCRETION: A PROSPECTIVE STUDY OF 35 PATIENTS

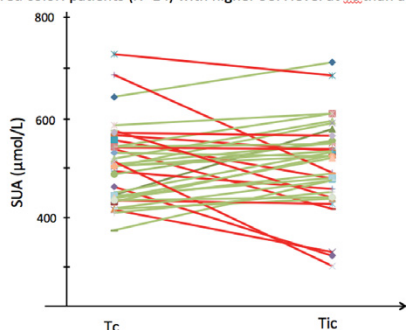
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Background: Acute gout is usually associated with a decrease in serum uric acid (SUA) level but the mechanism responsible for this phenomenon remains unclear. **Objectives:** We aimed to investigate relationships between changes in SUA level, urinary excretion of uric acid and biochemical markers during gout attack.

Methods: SUA, eGFR (estimated glomerular filtration rate), serum CRP level and urinary excretion of UA, expressed as fractional excretion of UA (FeUA), from 35 ULT (urate-lowering therapy)-free and diuretic-free gout patients were prospectively measured during acute gout attack (Tc) and intercritical (Tic) phase. In 11 patients, data were available after achievement of SUA target (Tt) (<360 µmol/l) under ULT. Demographics data and waist circumference (WC) were collected. Data are expressed as mean ± SD.

Results: There were 32 men, mean age 57.9 years, mean body mass index 28.6 kg/m², and mean waist circumference 104 cm. Overall 17.1% had type 2 diabetes, 37.1% dyslipidemia, 54.3% hypertension, 34.4% obesity, 74.3% abdominal obesity and 51.4% chronic kidney disease (CKD, 31.4% CKD 2 and 20% CKD 3–5). Gout duration was 3.9±6.7 years, 28.6% of patients had tophi and 31.4% gout arthropathy. SUA, eGFR and FeUA values were similar between Tc and Tic phases: SUA: 504.9±79.9 and 507.6±89.7 µmol/l; eGFR: 78.1±28.8 and 81.4±33.8 ml/min/1.73m²; FeUA: 4.90±2.3 and 4.45±3.3%, respectively. Moreover, the FeUA values were identical between Tt, Tic and Tc in 11 patients who achieved SUA target (296.0±37.8 µmol/l) under ULT. CRP levels were higher at Tc (44.8±69.4 mg/dL) than Tic (5.2±3.3 mg/dl) and Tt (4.6±1.2 mg/dl). While mean SUA levels were similar between Tc and Tic, SUA levels were lower in Tc than Tic in 21 patients (mean difference: 56.9±33.7 µmol/l) (figure1). In contrast, 14 patients had a SUA level higher in Tc than in Tic (mean difference: 78.6±71.5 µmol/L) (figure 1). SUA variations between Tc and Tic were not correlated with FeUA modifications in these two groups (p=0.15). Similarly, SUA and FeUA variations were not correlated with CRP variations between Tc and Tic (p=0.29 and p=0.30, respectively).

Figure 1. Variations of SUA between gout attack (Tc) and intercritical (Tic) phases (Green color: patients (N=21) with lower SUA level at Tc than at Tic; red color: patients (N=14) with higher SUA level at Tc than at Tic)



Conclusions: SUA levels during gout attack can be either higher or lower than SUA during intercritical phase. These variations are linked neither to inflammation level nor to FeUA. It would be interesting to assess the intestinal excretion of uric acid, xanthine oxidase activity and diet intake during these different gout phases.

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AB0901 CLINICAL SIGNIFICANCE OF URATE DEPOSITION IN TENDON: A DUAL-ENERGY CT STUDY

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Background: Dual-energy computed tomography (DECT) is advanced imaging modality that shows the deposition of monosodium urate (MSU) crystal in tissue as a color signal. The MSU crystal deposit around the symptomatic joint is considered as positive finding, but the clinical significance of urate deposition around the tendon is still unclear.

Objectives: The aim of this study was to compare the clinical characteristics and DECT findings in people with MSU crystal deposition in the joints and people with urate deposition in the tendons.

Methods: DECT was performed in 71 patients who complained of recurrent painful swelling of the joints, and 35 of them showed MSU crystal deposition in the joints on DECT. Clinical manifestation and serum uric acid level data were collected.

Results: Most of the included patients were middle-aged (mean age 50 years, SD 15) and 67 patients (94%) were male. All patients who had MSU crystal deposition in joints on DECT had a history of typical gout attacks, and 29 patients (81%) had a history of gout attacks among patients with urate deposition only in tendons (p=0.011). The mean uric acid level of patients included in the study was as high as 7.5±2.2 mg/dL. In the highest uric acid level, the absolute value was higher in patients with urate deposition in joints, but there was no statistical significance. The correlation between the gout attack site and the urate deposit sites was 91% in patients with joint involvement, but only 6% in patients without joint involvement (p<0.001). There were 4 patients (11%) who showed gouty erosion without MSU crystal deposition in joints on DECT.

Conclusions: The MSU crystal deposition in the tendon was not correlated well with clinical features, suggesting that it is more likely to be associated with artifact or asymptomatic hyperuricemia. However, in some patients, MSU crystal deposition may be observed only in the tendon, even with gouty erosion. Therefore, careful interpretation of the DECT results is necessary.

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Infection-related rheumatic diseases

AB0902 TUBERCULOSIS SCREENING IN PATIENTS RECEIVING BIOLOGIC THERAPY

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Background: The advent of biological treatments has greatly improved the management of chronic inflammatory diseases (CID). However, these biologics increase the risk of infection including the possible development of tuberculosis (TB). Screening of latent tuberculosis infection (LTBI) is therefore necessary prior to their initiation, especially in Tunisia, which is considered as a high-incidence area of TB.

Objectives: The aims of this study were to identify the prevalence of LTBI among patients candidate to initiate biologics, to analyze the tolerance of preventive therapy and to detect active TB or conversions of immunodiagnostic tests under biologics.

Methods: A retrospective study was conducted, over a period of 14 years (2002–2016). Patients with CID, candidate to initiate biological treatment, were included. The screening of LTBI was performed according to the national Tunisian guidelines. Clinical data, screening and follow-up information on biological therapy were assessed.

Results: A total of 76 patients were enrolled in the study, 32 men and 44 women with a mean age of 66 years [17–80]. Rheumatoid arthritis (RA) was the most common CID (44%). The diagnosis of LTBI was established in 16 cases (21%). Among them, 3 had a Tuberculin Skin Test (TST) more than 10mm associated with a positive Interferon Gamma Release Assay (IGRA), 11 had only a positive TST, and 2 had only a positive IGRA. One of them had a history of pulmonary TB but adequately treated. All patients with positive screening were considered for preventive treatment. Thirteen (81%) received an association of isoniazid-rifampicin for 3–6 months, and 3 (19%) received isoniazid for 6 months. Toxicity was reported in 4 cases (25%): hepatotoxicity (n=1), dermatologic toxicity (n=1), fever (n=1) and stomachache (n=1). During the follow-up period, no case of reactivation has been reported among patients with LTBI. Out of the 60 patients with negative baseline screening, only 4 have been re-screened (6%) and none had conversions in immunodiagnostic tests. However, among patients who screened negative, one case of active pulmonary TB has been reported in a woman who had an ankylosing spondylitis (AS) and who was receiving infliximab during 22 weeks. She hadn't previous TB history or new TB exposure.

Conclusions: Our study showed that the Tunisian recommendations allowed detecting a LTBI in 21% of biologic therapy candidates. The initial screening and the prophylactic treatment improve the safety of these treatments. However, we noted a low rate of re-screening, as the Tunisian guidelines do not recommend