Conclusions: The overall performance of the 2015 ACR/EULAR gout criteria was good, particularly for the purpose of enrolling into trials. The impact of disease duration was confirmed⁴ and should be considered for misclassification issues as well as in clinical practice. Exploratory findings on gender effect seem relevant and deserve further studies.

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FRI0224 MANAGEMENT TO REDUCING LIVER FUNCTION IMPAIRMENT WHEN INITIATING FEBUXOSTAT FOR GOUT BASED ON THE PREDICTION NOMOGRAM

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Background: Febuxostat is now used widely as urate-lowering therapy in gout. The most common adverse effects of which is liver function impairment (LFI). However, it is still not known in what conditions will the LFI happen.

Objectives: To identify the potential factors associated with LFI and establish an effective prediction nomogram, and also to determine whether febuxostat with stepwise dose increase useful in reducing LFI in patients with high risk calculated basing the nomogram.

Methods: Part A: A retrospective study was performed among patients with gout. Nomogram was established based on logistic regression. The internal validation was performed via the area under the receiver operating characteristic (ROC) curve (AUC). Part B: In the follow-up prospective study, patients were divided into high-risk (>30%) group (stepwise dose increase of febuxostat from 10 to 40 mg/day) and low-risk (≤30%) group (fixed-dose febuxostat 40 mg/day) calculated basing the nomogram. Incidence rate of LFI were analysed.

Results: Part A: 306 subjects were recruited. LFI happened in 38 subjects after initiating fixed-dose febuxostat 40 mg/day. The logistic regression multivariate analysis indicated that age, use of alcohol, chronic renal insufficiency (CRI), medication use of statin and fatty liver were significantly associated with LFI. The AUC was 0.8424 (95% CI: 0.765–0.920). Part B: 108 subjects were recruited. LFI happened in 3/46 in high-risk group and 4/62 in low-risk group. The incidence rate of LFI after management basing prediction nomogram (7/108, 6.48%) was lower than previous study (38/306, 12.42%), with statistically difference ($P < 0.05$).

Abstract FRI0224 – Table 1. Multivariate logistic regression analysis of variables ($P < 0.05$) predicting LFI.

Variable	P value	Adjusted OR (95% CI)
Age	0.004	1.062 (1.020–1.106)
Gender	0.507	0.569 (0.109–2.996)
Chronic renal insufficiency (%)	0.038	5.905 (1.100–31.701)
Hypertension (%)	0.359	0.573 (0.174–1.884)
Coronary artery disease (%)	0.906	0.907 (0.181–4.552)
Hyperlipidemia (%)	0.638	1.395 (0.349–5.573)
Statin use (%)	0.021	6.608 (1.324–32.970)
Fatty liver (%)	0.024	6.005 (1.268–28.438)
Alcohol use (%)	0.028	2.882 (1.119–7.420)

The nomogram allows the user to obtain the probability of liver function impairment risk when initiating febuxostat. As an example, locate the patient's age and draw a line straight upward to the "Points" axis to determine the score associated with that age. Repeat the process for each variable, and sum the scores achieved for each covariate, and locate this sum on the "Total Points" axis. Draw a line straight down to determine the likelihood of liver function impairment. CRI = chronic renal insufficiency.

Abstract FRI0224 – Figure 1. Prediction nomogram for liver function impairment in gout treated with febuxostat.

The nomogram allows the user to obtain the probability of liver function impairment risk when initiating febuxostat. As an example, locate the patient's age and draw a line straight upward to the "Points" axis to determine the score associated with that age. Repeat the process for each variable, and sum the scores achieved for each covariate, and locate this sum on the "Total Points" axis. Draw a line straight down to determine the likelihood of liver function impairment. CRI = chronic renal insufficiency.

Internal validation using the receiver operating characteristic (ROC) curve. The area under the ROC curve was 0.8424, 95% confidence interval (95% CI: 0.765–0.920).

Abstract FRI0224 – Figure 2. Validation of the nomogram.

Internal validation using the receiver operating characteristic (ROC) curve. The area under the ROC curve was 0.8424, 95% confidence interval (95% CI: 0.765–0.920).

Conclusions: Predictors including age, use of alcohol, CRI, medication use of statin, and fatty liver, were combined to construct a nomogram. And the current nomogram might help to distinguish gouty patients with high-risk LFI when initiating febuxostat and avoid unnecessary adverse events. Stepwise dose increase of febuxostat in patients with high-risk calculated basing the nomogram effectively reduced incidence rate of LFI.

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FRI0225 ELECTRONIC CONSULTATION UTILITY IN THE MANAGEMENT OF GOUT

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Background: Gout is the most prevalent inflammatory arthritis in adults worldwide. Although it can be managed by primary care physicians (PCPs), complex cases often require rheumatology consultation. The average wait time for an initial rheumatology clinic visit varies from 38 days to 47 weeks after diagnosis. Utilising electronic consults (E-consults) allows for a swift two-way communication between referring and rheumatology physicians (pre-consult exchange). Rheumatologists can then triage patients to electronic management versus face-to-face rheumatological evaluation to provide timely insight to improve patient care.

Objectives: To analyse the effectiveness of gout management via E-consult compared to PCP or rheumatology management at the Veteran's Affairs Medical Centre in Long Beach (VALB), CA, USA.

Methods: A retrospective study of 171 VALB gout patients from 2009 to 2014 was constructed. Patients were placed into groups based on modes of management: PCP (n=48), direct rheumatology (n=67), or E-consult management (n=56). Electronic medical records were reviewed for a 24 month period from the first gout flare or E-consult date. The read-out for management effectiveness included change in frequency of gout flares, related emergency department (ED) and PCP visits, renal function (creatinine clearance, CrCl), and serum uric acid levels (sUA).

Results: Of the 56 E-consults, 43 cases were resolved electronically and 13 were converted to face-to-face rheumatology visits. The wait time for recommendations from E-consults was 2.1±4.6 days, and face-to-face rheumatology visits was 22.9±20.1 days after pre-consult exchange, vs 43.1±56.9 days for direct rheumatology consults. Both E-consult and rheumatology clinic patients had more gout attacks and related ED visits at baseline (p=0.08). They were also more likely to be treated with allopurinol, colchicine, febuxostat and corticosteroids than with NSAIDs alone (p<0.05). The number of gout attacks, and hence related PCP and ED visits, were significantly reduced when patients were managed by either a rheumatologist clinically or E-consult compared to PCP alone (p<0.05), with significant decrease in sUA and improved CrCl (p<0.001). Efficacy of E-consult management was comparable to rheumatology visits in the first 12 months, but at 18 months, direct rheumatology management superseded E-consults.

Conclusions: Gout management can be optimised when patients with uncontrolled disease are referred to rheumatology or E-consults within the first 12 months of active disease, and be transitioned to PCP management thereafter if disease is stable. E-consult serves as a reasonable alternative in managing gout with a shorter wait time for recommendations and rheumatology appointments. E-consults are an efficient means to address straight-forward clinical questions from PCPs, to expedite referrals to the rheumatology clinic.

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FRI0226 ASSESSMENT OF THERAPY ADHERENCE AND TREATMENT RESULTS IN GOUT PATIENTS WHO ATTENDED SCHOOLS FOR PATIENTS AND IN THOSE WHO DID NOT

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Background: Gout is a poorly controlled disease despite the availability of effective treatment methods. One of the main reasons for its poor control is patients' low adherence to treatment, including due to insufficient knowledge of treatment principles.

Objectives: To assess adherence to therapy and results of treatment in gout patients who attended schools for patients and in those who did not.

Methods: All patients with crystal-verified gout were interviewed and invited to attend School for gout pts. Totally 301 pts with gout were observed, 36 (10%) females and 264 (90%) males, mean age 54.5±12.7 y., mean disease duration 9.02±1.12 y., with the gout diagnosis verified at average 48.71^{±12.60} months after the onset, the target UA level <360 μmol/l initially was in 72 pts (24%).

All patients were divided into 3 groups: Group 1 included 111 (36%) patients who refused to attend the school, Group 2 included 90 (30%) patients who consented but failed to come, Group 3 consisted of 100 (34%) patients who attended the School (- 100 (34%)).

The data from the questionnaires were used for baseline and on-treatment assessments of the following: patient's attitude to the disease, patient's compliance to treatment, satisfaction with quality of life, the fact of taking urate-lowering therapy, UA level control, achievement of the UA level of <360 μmol/l.

Results: In all 3 groups, after the visit to the doctor, the number of the patients taking urate-lowering therapy who reached the target level of uric acid, significantly increased, the maximum values were noted in the group who attended the School for gout pts. The UA target level achievement results in Group 2, of those who agreed to attend the School but never did for various reasons, were better than in Group 1 and comparable to that in Group 3. Table 1 presents the results of questionnaire survey at baseline and after one year.

Better adherence to treatment was noted in patients with poorer quality of life and a rational attitude toward their disease. The patients who report satisfaction with quality of life often decided to refuse to take their medications, visited the doctor less often and more seldom achieved the UA target level.

Abstract FRI0226 – Table 1. Parameters at baseline and after one year

parameters	Group 1 (patients who refused to attend the school), n=111		Group 2 (patients who consented but failed to come), n=90		Group 3 (patients who attended the school), n=100	
	baseline	after 1 year	baseline	after 1 year	baseline	after 1 year
Did not take urate lowering therapy, n (%)	86 (79%)	38 * (35%)	55 (62%)	12 (12%)	56 (56%)	8 (8%)
Monitored the level of UA, n (%)	62 (56%)	76 * (69%)	68 (75%)	72 (80%)	62 (62%)	90 (92%)
Achieved the target UA level<360 μmol/l, n (%)	8 (33%)	56* (51%)	14 (15%)	62 (69%)	13 (13%)	87 (87%)
Satisfied with the quality of life, n (%)	84 (67%)	85 (77%)	42 (47%)	75 (83%)	62 (62%)	95 (95%)
Not satisfied with the quality of life, n (%)	26 (33%)	5 (5%)	48 (53%)	3 (4%)	38 (38%)	3 (3%)

*p<0,05 between the baseline and one-year

Conclusions: Patients' attendance of the School for gout pts increases their adherence to urate-lowering treatment and promote better quality of life. However, treatment adherence in gout patients largely depends on mental approach. Patients who are more actively involved in their health care achieve better results regardless of the source of information.

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