physician or hospital visit. To ensure incident gout, we required that all cases have ≥ 10 years of prior registration without a gout diagnosis. Gout cases were matched 1:1 with controls on age, sex, and cohort entry time. Prior VTE events were excluded after matching. VTE was defined using ICD-9/ICD-10 codes plus use of oral anti-coagulant. We calculated incidence rate ratios (IRRs) and age, sex, and entry time matched multivariable hazard ratios (HRs) for the risk of VTE. Sensitivity analyses were conducted to assess for unmeasured confounders (e.g., obesity).

Results: Among 105,307 individuals with newly diagnosed gout (61% male, mean age of 58 yrs), we observed 1,212 VTE events (mean follow-up time of 5.3 yrs). The fully adjusted HR was 1.27 (95% CI, 1.16–1.39) (Table 1). Our results remained significant in the sensitivity analyses (OR of 2.0 between gout and unmeasured confounder and a 50% prevalence for obesity). There were 437 incident VTE events within 3 yrs prior to the gout diagnosis. Compared to controls, during the 3rd, 2nd, and 1st yrs before gout diagnosis, the fully adjusted HRs for VTE in patients with imminent gout were 1.51, 1.58 and 1.73. The corresponding HRs in the 1st, 2nd, 3rd, 4th, and 5th yrs after gout diagnosis were 1.54, 1.39, 1.38, 1.37, and 1.32, respectively.

Table 1

	Gout (N)	Control (N)	No. of VTE events		IRRs (95% CI)	Age-, sex-adjusted (95% CI)	Fully adjusted* (95% CI)
			Gout	Control			
Before gout diagnosis							
-3yrs	105,744	106,219	437	254	1.73 (1.48,2.03)	1.68 (1.44,1.96)	1.51 (1.29,1.77)
-2yrs	105,638	106,146	331	181	1.84 (1.53,2.22)	1.78 (1.49,2.14)	1.58 (1.31,1.90)
-1yr	105,493	106,055	186	90	2.08 (1.61,2.70)	2.01 (1.56,2.58)	1.73 (1.34,2.24)
After gout diagnosis							
1yr	105,307	105,965	229	116	1.99 (1.58,2.51)	1.92 (1.54,2.40)	1.54 (1.22,1.94)
2yrs	105,307	105,965	390	234	1.68 (1.43,1.99)	1.63 (1.39,1.92)	1.39 (1.18,1.64)
3yrs	105,307	105,965	540	331	1.65 (1.43,1.89)	1.60 (1.39,1.83)	1.38 (1.20,1.59)
4yrs	105,307	105,965	667	414	1.63 (1.44,1.85)	1.58 (1.40,1.79)	1.37 (1.21,1.56)
5yrs	105,307	105,965	775	506	1.55 (1.38,1.74)	1.51 (1.35,1.68)	1.32 (1.18,1.49)
Overall	105,307	105,965	1,212	858	1.44 (1.32,1.57)	1.40 (1.29,1.53)	1.27 (1.16,1.39)

*Adjusted for Charlson comorbidity index, cancer, alcoholism, hypertension, sepsis, trauma, healthcare utilization, NSAIDs, HRT, glucocorticoid and fractures, surgery within 1 year before entry cohort.

Conclusions: Patients with gout have an increased risk of VTE. The risk increases gradually before gout diagnosis, peaks in the year prior to gout diagnosis, and then progressively declines. Our findings suggest that hyperuricemia or gout associated inflammation may be a contributing factor for VTE.

Disclosure of Interest: None declared

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THU0441 SYNOVIAL FLUID LEUKOCYTE COUNT AND ITS ASSOCIATION WITH CRYSTAL DEPOSITION IN ASYMPTOMATIC HYPERURICEMIA: A PRELIMINARY REPORT

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Background: Joint deposits of monosodium urate (MSU) crystals in asymptomatic hyperuricemia (AH) may associate with more severe forms of atherosclerosis [1]. It likely relates with crystal-driven subclinical inflammation, a phenomenon well described in gout [2] but to date not assessed in AH.

Objectives: To assess the synovial fluid (SF) leukocytes count in patients with AH depending on the presence of crystals.

Methods: Consecutive patients with AH were selected from nephrology clinics. Hyperuricemia threshold was established at serum uric acid (SUA) $\geq 7\text{mg/dL}$; those on current urate-lowering therapy were excluded. Ultrasound (US) of knees, ankles and first metatarsophalangeal joints was performed blinded to clinical and laboratory data, in order to perform US-guided aspiration and obtain SF samples. These samples were analyzed in fresh by two observers, using a compensated polarized light microscope equipped with two viewing stations. The second observer was in addition unaware of US findings. The presence of leukocytes and crystals was established by consensus. SF leukocyte count was performed using a Neubauer counting camera. Mann-Whitney's U and Kruskal-Wallis' H were used to compare difference in leukocyte counts between groups.

Results: To end of January 2017, 30 patients have been assessed, with SF samples available from 27 (three showed no joint effusion at US). Median age was 70 years (p25–75 59.8–75.5), and 16 of them (60%) were males. Median (p25–75) SUA and estimated glomerular filtration rate were 8.1 mg/dL (7.6–8.5) and 37.0 mL/min (31.0–47.5), respectively. Seven (25%) were on diuretics. After microscopy evaluation, MSU crystals were found in four patients (14.8%), calcium pyrophosphate (CPP) crystals in five (18.5%), and no crystals in 18 (66.7%). Figure shows median leukocytes count according to crystal group: 200/mm³ (138–540) in MSU group; 60/mm³ (50–235) in CPP group; and 30/mm³ (10–53) in those with no crystal at SF. A statistically significant difference was found between the three groups (p=0.001), and comparing MSU crystals and no crystals groups (p<0.001); no difference was found between MSU and CPP groups (p=0.111).

Conclusions: In a preliminary report, MSU crystal deposition in patients with AH leads to higher SF leukocyte count, indicating low-grade inflammation. Despite low numbers and being an ongoing study, this significant finding might contribute to explain the severe atherosclerosis data recently reported in AH patients with silent crystal deposits.

References:

[1] Arthritis Rheumatol 2016;68:1531.

[2] Arthritis Rheum 1991;34:141.

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THU0442 EHEALTH SUPPORTED COLLABORATIVE CARE MODEL FOR GOUT INVOLVING RHEUMATOLOGY, PHARMACY, AND DIETETICS: PROOF-OF-CONCEPT OBSERVATIONAL STUDY

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Background: Sub-optimal quality of care for gout, the most common inflammatory arthritis, has called for novel models to improve care and outcomes of patients.

Objectives: Our objective was to evaluate the feasibility of the "Virtual Gout Clinic Study" (VGCS) a collaborative approach to gout management involving rheumatology, pharmacy, and dietetics that take advantage of eHealth, namely, shared access of electronic medical records (EMRs), to support this unique, decentralized model of care.

Methods: Design: We conducted a 1-year, proof-of-concept, longitudinal observational study with a target of 30 patients. **Eligibility:** Patients with gout were eligible if they were: 1) seen in 1 of 4 rheumatology practices with 8 rheumatologists participating across British Columbia, Canada; 2) experienced ≥ 1 flare in the past year; 3) have a serum uric acid (SUA) level $\geq 360\text{ }\mu\text{mol/L}$ within the previous 2 months. **Follow-up:** Within the VGCS, patients receive follow-up with their rheumatologist on an as needed-basis, monthly telephone consults from the study pharmacist, and 1 telephone consult with the dietician. In this decentralized model of care, health care professionals are not co-located but have access to the patient's EMR to facilitate remote communication and collaboration. **Outcomes:** Prospective data was collected at baseline, 3, 6, and 12 months. The primary outcome measure was SUA at 12-months, specifically below recommended target level of $360\text{ }\mu\text{mol/L}$. Secondary outcomes included patient reported outcome measures including the Compliance Questionnaire Rheumatology, Health Assessment Questionnaire Disability Index, and EQ-5D, as well as information on interventions provided within the VGCS.

Results: Overall, 33 individuals with gout participated in the VGCS. There were 22 males (88%) and mean age was 60.8 ± 15.3 years. 29, 28, and 25 patients have completed follow-up at 3, 6, and 12 months respectively. At baseline, 22 (67%) patients were prescribed urate-lowering therapy (ULT; 21 with allopurinol and 1 with febuxostat). The remaining 11 patients initiated ULT during the study period. Figure 1 shows mean SUA decreased over baseline, 3, 6, and 12 months from $451\text{ }\mu\text{mol/L}$, $367\text{ }\mu\text{mol/L}$, $356\text{ }\mu\text{mol/L}$, and $364\text{ }\mu\text{mol/L}$, respectively, with 67% of patients having SUA $< 360\text{ }\mu\text{mol/L}$ at 12 months. A total of 126 pharmacist and 24 dietitian consults have been provided. Pharmacist interventions included: up-titration of allopurinol dosage for 15 patients, restarting of ULT for 4 non-adherent patients, discontinuation of unnecessary medications for 12 patients, and renewals of prescription medications using solely electronic communications for 4 patients.

Conclusions: These findings provide evidence for the feasibility and effectiveness of the VGCS. With respect to feasibility, we successfully established the shared EMR framework between rheumatologists and study pharmacist and dietitian and demonstrated utility with respect to facilitating communication and collaborative