

Title “Allopurinol Does Not Help Me”: An Assessment of Medication Effectiveness in Hmong Adults with Gout

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Abstract

Objective or Hypothesis Hmong patients have higher prevalence of gout, at younger ages, with more severe disease and more complications, and have higher levels of uric acid when prescribed allopurinol than White patients in St Paul clinics. Some Hmong patients with gout complain that Western medicines, including allopurinol, are ineffective. Allopurinol reduces serum uric acid by impeding uric acid production and impairing renal reabsorption of uric acid, which reduces frequency of acute gout attacks. Our research objectives were to assess allopurinol’s efficacy in Hmong adults with gout and hyperuricemia and identify how Hmong patients evaluate medication effectiveness.

Population Self-identified Hmong adults ≥ 18 years with gout or serum uric acid (SUA) ≥ 6 mg/dL, recruited from the Twin Cities metropolitan area, MN.

Methods Community-based participatory research (CBPR) project with mixed methods conducted by Hmong Gout Research Board, including Hmong patients, family members, and professionals, as well as non-Hmong professionals.

Quantitative: A two-week open-label trial of 200mg allopurinol daily for a week followed by 300mg allopurinol daily for a week. Analysis: paired t-tests for pre-post allopurinol measures of SUA, and calculated glomerular-filtration rate (eGFR) using creatinine clearance in weight-adjusted Cockcroft-Gault equation.

Qualitative: Focus groups in Hmong language about participants’ actions to treat and prevent gout attacks. Analysis: Thematic analysis of translated audiotapes from four focus groups of patients in allopurinol trial.

Main Results 39 Hmong adults with gout or hyperuricemia enrolled in the study and participated in focus groups. 34 people (31 males) completed the pre-post trial.

Quantitative: Mean age = 44 years (range 24 – 66 years). Mean BMI = 32.6 Kg/m² (range 22 – 47). Mean blood pressure= 140/89 mmHg (range 190-108/123-64). Average medication compliance = 95% (range 79-100%). Mean (\pm SD) [range] SUA pre and post allopurinol was 9.3 (1.6) [6.1-12.8] mg/dL and 5.3(1.1) [range 3.1-6.9] mg/dL ($p < 0.001$), respectively. Mean (\pm SD) [range] eGFR pre and post allopurinol was 63 (± 21) [31-106] and 89 (± 31) [41-147] mL/min ($p < 0.001$), respectively.

Qualitative: Participants described many activities to prevent gout pain (avoid specific foods and drinks) and many medicines (prescribed, OTC, and non-traditional) to treat and prevent pain. Participants complained that medicines do not cure their gout, work slowly, only provide temporary relief, can make them dependent, and can harm them (rash, diarrhea, ulcers, diabetes, and kidney failure). Some participants perceived allopurinol as ineffective as it does not “relieve acute pain”. Other participants avoided chronic preventive medicines because of concerns about harm, particularly kidney failure.

Conclusions Two weeks of allopurinol effectively reduces serum uric acid and improves renal function for Hmong adults with gout and hyperuricemia. Some people are not taking allopurinol chronically as they are disappointed it does not relieve acute pain or prevent recurrent attacks, and are afraid that it may harm their kidneys. Culturally and linguistically-appropriate patient education could address this non-adherence by illustrating allopurinol’s effectiveness in reducing SUA and stressing allopurinol’s effect of improving renal function in Hmong adults. An education program needs to be created, implemented and evaluated in partnership with Hmong people with gout.

IRB Approval x HIPAA Compliance x Funding Sources University of Minnesota, CTSI