Are We Sure It's Gout? Reducing Harms of Allopurinol Prescribing

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Story from the Front Lines

A 53 year-old African American man with hypertension, diabetes, gout and pulmonary embolism was admitted to the hospital with fragile, sloughing blisters on his lips, extremities, and penis. Several years prior, he was prescribed allopurinol for presumed gout (never proven with arthrocentesis) and self-stopped because of lack of flares. A year prior, he established in our health care system, but gout was not discussed in his medical history. He was hospitalized shortly thereafter for a PE and during that time mentioned great toe pain to the team who noted "no redness, swelling or warmth." However, given his self-reported history of gout he was prescribed allopurinol at discharge and told to take ibuprofen as needed. One month later, he was seen by his PCP for lip and genital blisters and treated for HSV. An e-consultation to dermatology also listed "fixed drug eruption" on the differential diagnosis. Between the HSV diagnosis and the months leading up to the current hospitalization, he stopped taking allopurinol. However, two days prior he developed pain in both knees and restarted allopurinol as he thought he was developing a gout flare. During the current hospitalization, the patient is seen by dermatology who diagnose him with Stevens-Johnson Syndrome (SJS) versus generalized bullous fixed drug eruption, thought to be secondary to allopurinol. The patient is transferred to a burn center and discharged several days later with ongoing wound care needs.

Teachable Moments

There are several points in the timeline of this case where an intervention may have helped prevent the adverse outcome for this patient, including proper diagnosis of gout, patient education surrounding gout treatment, and potential for genetic testing prior to starting allopurinol.

Proper diagnosis of gout is important prior to starting ULT, as treatment is intensive and often lifelong and carries the risk of allopurinol hypersensitivity reactions. Uric acid levels can be inaccurate during a flare and hyperuricemia occurs in ~20% of the US population while gout occurs in ~4% (Zborowski 55). Therefore, an elevated uric acid level is not sufficient to diagnose gout. When possible, an arthrocentesis should be performed to prove crystalline arthropathy.

Given low reported adherence to ULT, the decision to start should include a risk benefit discussion and patient education surrounding medications. Patients should be aware that they will likely be on lifelong therapy, that initiation of ULT typically requires frequent visits/lab draws to aid in titration of the drug, and that there will be a prolonged period of overlap anti-inflammatory therapy to prevent precipitating flares. There should also be a discussion of how the different medications work – ULT versus anti-inflammatory prophylaxis versus an action plan for flares – as there can be confusion surrounding how to take these medications. With this case, the discussions from when the patient was first started on allopurinol are unknown, but he had been taking allopurinol as needed for joint pains that were unlikely to be gout flares. Specifically, during the hospitalization for PE there was an intervenable moment where both a review of the indication for allopurinol (whether needed in the first place) as well as more robust education as to how to take the medication would have been helpful. Given the implications of starting ULT, this discussion may have been better suited for his hospital follow-up visit in the primary care setting.

Finally, genetic testing has been a recent recommendation prior to starting allopurinol in certain populations. The HLA-B*58:01allele is associated with a significantly increased risk of developing allopurinol hypersensitivity reactions and in previous years testing was recommended for those racial groups with highest prevalence (~7.4% in SE Asians including Korean, Han Chinese, and Thai descent) prior to starting allopurinol. However, the 2020 ACR Guideline for Management of Gout now conditionally recommends testing these patients as well as African American patients (~4% prevalence). One study sought to identify whether cases of SJS from allopurinol were affecting certain racial groups disproportionately and found that in 606 cases over four years, 27% were Asian, 26% African American and 1% Caucasian despite making up 5%, 12% and 67% of the US population, respectively (Lu 2016). The HLA-B*58:01 allele could be the reason for this disparity.

This case demonstrates that when gout is suspected, care in diagnosis, education surrounding treatment and consideration of genetic testing (especially in those of SE Asian and African American descent) are warranted to avoid an adverse outcome.

References:

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