Reviewer's report

Title: Urine alkalization facilitates uric acid excretion.

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Reviewer: Lesley Doughty

Reviewer's report:

This is a well done and very focused manuscript. It is well known that alkalinizing the urine promotes uric acid excretion which is routinely done prophylactically during some early chemotherapy protocols. Employing this strategy with dietary manipulations is the novelty here. Dietary manipulation resulted in alteration of urine pH and uric acid excretion in the urine.

The question remaining is the following. How certain can we be that the difference in uric acid excretion results from the change in urine pH vs the difference in purine/protein intake? The data show a linear association between urinary pH and uric acid however does this prove causality? If this is causal, is this the principle behind the recommendation for those with gout to eat a low protein diet? Could the authors address this question in the discussion?

The title for Table 1 is confusing. Does the reference to "the last 3 experimental days" imply that results within each individual were averaged over these 3 days? Or is the data presented for day 5?

The discussion should be shortened. It is unclear what the evolution issues mentioned in the beginning of the last paragraph on page 9 adds to the manuscript. It is somewhat confusing.

Ultimately, everyone who eats a high protein diet does not get gout leading the conclusion that the hyperuricemia seen in gout cannot be as simple as just dietary protein and acid load. It would be interesting to try this experiment in patients with gout to see if the same results occur. I realize this is beyond the scope of this manuscript but could the authors comment on this.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
'I declare that I have no competing interests'