

LETTER

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Inpatient gout flare is multifactorial: comment on “clinical characteristics and risk factors for gout flare during the postsurgical period”

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Dear the editor,

I have read with great interest a paper on the characteristics and risk factors of postsurgical gout flare in people with comorbid gout by Jeong and Jeon [1]. The paper postulated that pre-surgical serum urate ≥ 9 mg/dl and postsurgical change of serum urate were associated with higher risk of postsurgical gout flare, while the use of any gout medication or allopurinol was associated with lower risk of postsurgical gout flare. Although this hypothesis is intuitively sound, the statistical analysis used in the study may not be adequate to support such assertions.

Inpatient gout flare is a multifactorial event influenced by a combination of gout-related (e.g., serum urate level, tophus) and hospitalization-related factors (e.g., diuretic adjustment, acute kidney injury, surgery) [2]. Surgery may be associated with gout flare through more than one mechanisms, including volume status change, tissue hypoxia and systemic inflammatory response [3, 4]. The current study analyzed the association between various factors and the occurrence of postsurgical gout flare using a univariate logistic regression. The univariate model puts a single covariate against the outcome of interest (postsurgical flare) without adjusting for potential confounders. The model also does not consider possible association between some factors. For example, it could be argued that ‘allopurinol use’ may be related to lower ‘pre-surgical serum urate’ or men may have higher ‘pre-surgical serum urate’. These possible correlation cannot be adjusted for in a univariate analysis. Furthermore, the paper did not clarify the list of factors

included in the univariate analysis. Consequently, it is difficult to be certain if all potential factors were accounted for in the analysis (e.g., gender, age, inflammatory markers, fluid intake, and kidney disease).

I therefore encourage the authors to clarify the full list of candidate factors included in the risk factor analysis and, if possible, perform additional multivariable logistic regression, incorporating all relevant factors into the model. The analysis may yield a different set of factors statistically and independently associated with the risk of postsurgical gout flare. Such knowledge would be a valuable addition to the existing literature regarding inpatient gout management and may help inform future research agenda on this particular subject.

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