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Letters to the Editor

Reply to Day et al.—Hypouricemic Effect of Prednisone in Heart Failure: Possible Mechanisms

To the Editor:

We thank Dr Day and colleagues for raising the issue about the relationship between uric acid (UA) levels and furosemide dosages in our study. Many observational studies have shown higher furosemide doses are associated with worsening renal function and decreased UA excretion. However, these observations are all confounded by the fact that patients with heart failure receiving higher doses of diuretics do so owing to greater disease severity or worse renal function. This is the case with our study in which the clinical characteristics and the doses of furosemide are well matched at baseline.[1] However, the doses of furosemide were halved in the prednisone group at the end of the study because prednisone led to a dramatic improvement in renal function and clinical status.[1]

The precise mechanisms of using glucocorticoids to lower UA in heart failure are unclear. Theoretically, either reducing UA production or increasing UA excretion could lead to lowering of serum UA. Currently, there is no evidence that prednisone may affect UA production. However, limited data have shown that UA elevation might be an index of impaired renal function in heart failure.[2] This notion is strengthened by our studies that showed renal improvement is associated with a dramatic reduction in serum UA in patients with heart failure.[1,3] More importantly, there is evidence that prednisone significantly increases renal UA clearance and fractional excretion of UA.[4]

Dr Day suggested controlling the dose of furosemide to ascertain the absolute effect of prednisone. We think furosemide dose adjustments should be controlled in relation to changes in renal function, blood pressure, and heart failure signs. Preventing all furosemide dose adjustments in patients with symptomatic congestive heart failure would be unethical and potentially dangerous.

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Disclosures

The authors have no conflicts of interest to disclose.

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