Letter to the editor: A non-invasive estimate of glomerular filtration rate derived from nonequilibrium thermodynamics

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Editor, I read the recent publication titled “A non-invasive estimate of glomerular filtration rate derived from nonequilibrium thermodynamics” by Simon Brown [1] with a great interest. Brown concluded that while more complete data are required to evaluate it thoroughly, the expression complements the analyte-based methods for estimating glomerular filtration rate (GFR). I have some considerations on this work. First, the question is whether thermodynamic approach is suitable and applicable to the exact glomerular filtration phenomenon. Although the thermodynamic energy change can be seen in pathological condition of glomerulus such as in diabetes mellitus [2] there is no flux at normal condition [3]. Second, this work omitted the concern on other interference factors on the GFR especially for blood flow and blood constitutes.

References