

Urine foaming test, a promising diagnostic test for COVID-19 infection

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To the Editor,

We read with interest the article published by Kurtulmus et al. [1] titled: The urine foaming test in COVID-19 as a useful tool in diagnosis, prognosis, and follow-up: Preliminary results discussing a point of care, easily done urine test to detect COVID-19 infection. We applaud the researchers' effort in presenting a low-cost test at a time when the world is in the edge of global recession because of the COVID-19 pandemic where such tests are highly needed by the financially challenged health-care systems globally. The researchers depended on a physical character of the urine, namely, foam formation that can instantly be quantified visually which would identify COVID-19-specific metabolites and metabolic degradation products as a result of reacting with a newly developed reagent for this purpose.

Foam formation in this study ought to be interpreted with caution since several factors can contribute to foam formation and can simply be overlooked in such studies. First, concentrated urine which is expected in subjects who have recent viral illness resulting in poor oral intake can lead to foam formation. This is a consequence of an increase in the concentrations of the normally present amphipathic substances responsible for foam formation in the urine resulting from dehydration following poor oral intake [2]. Second, alkaline urine for any reason can interfere with foam formation by decreasing surface tension and give a falsely negative results [3]. Third, the authors excluded subjects with diabetes mellitus and nephrotic disorders but nevertheless, subjects with low-grade proteinuria can still form a foamy urine which could have affected result interpretation.

Finally, we acknowledge that the study by Kurtulmus et al. [1] remains to be important and time sensitive. We do advise considering our critique in their future multi-center observational study as they suggested.

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REFERENCES

1. Kurtulmus MS, Kazezoglu C, Cakiroglu B, Yilmaz H, Guner AE. The urine foaming test in COVID-19 as a useful tool in diagnosis, prognosis and follow-up: Preliminary results. *North Clin Istanbul* 2020;7:534–40.
2. Khitan ZJ, Glasscock RJ. Foamy Urine: Is This a Sign of Kidney Disease? *Clin J Am Soc Nephrol* 2019;14:1664–6. [[CrossRef](#)]
3. Diskin CJ, Stokes TJ, Dansby LM, Carter TB, Radcliff L. Surface tension, proteinuria, and the urine bubbles of Hippocrates. *Lancet* 2000;355:901–2. [[CrossRef](#)]

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Adaptation of the knowledge about childhood autism among health workers questionnaire aimed for usage in Turkey

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To the Editor,

We would like to read and contribute to the research article titled "Adaptation of the Knowledge about Childhood Autism among Health Workers (KCAHW) Questionnaire aimed for usage in Turkey" written by