DOI: 10.1002/nau.24780

LETTER TO THE EDITOR

Comment on the article "Good urodynamic practices: Uroflowmetry, filling cystometry, and pressure-flow studies": We would like to share some alternative approaches for the current cough test during the urodynamic study to prevent the transmission of the virus between urodynamcists and patients in the global COVID-19 situation

Dear Editors,

Since 2002 the International Continence Society (ICS) had published the first vision of "good urodynamic practice (GUP)."[1] It became the highest international standard for urodynamic practice. Then GUP was developed during the two periods times of 2013–2015 and 2015–2016.[2] Different versions of GUP had already become the fundamental textbook for urodynamicists around the world. It was pointed out in GUP that the "cough test" was the basic method to do the quality control during the urodynamic study (UDS), whether for the traditional "water-filled catheter system" or the novel "air-charged catheter system," "cough tests" should be performed throughout the entire UDS process, the GUP point out that the first cough test should be performed before the test begins, then cough tests should be performed once every 50 ml filled-volume during the study, a final cough test should be performed at the end of the study.

Unfortunately, in December 2019 coronavirus disease 2019 (COVID-19) was first reported in Wuhan, China,[3] then the highly contagious disease spread throughout China, subsequently, cases of COVID-19 were reported around the world. The main transmission ways including human–human, airborne transmission, and other ways, the aerosols produced by patients' coughing and sneezing are highly contagious, many studies have pointed to virus-containing aerosols as an important route of transmission of COVID-19.[4,5] In the global COVID-19 epidemic situation, especially in some underdeveloped or developing countries, the spread of the virus has not been well-controlled, it is potentially dangerous to let the patient do the "cough test" repeatedly during the UDS in this special situation. Although lots of studies have shown that wearing a mask or face screen can significantly reduce the virus transmission rate.[6,7] But finding some alternative approaches for the traditional "cough test" may also be a better idea for reducing the transmission of the virus between urodynamicists and patients.

In our single-center experience, we found that we can achieve the same purpose as the classical "cough test" in the following ways: (1) Pressing quickly on the bladder area (2–3 cm above the midline of pubic symphysis). (2) Instruct patients to close their mouth while doing the "cough test." (3) Let patients do the Valsalva maneuver. (4) Have the patient undergo a COVID-19 nucleic acid test before the test, undoubted all these alternatives should be based on the premise of wearing a face mask. From our current clinical practice, we found that although the cough wave patterns obtained by approaches 1, 2, and 3 are not as standard as the image obtained by classical methods, however, it can still meet the minimum requirements of routine urodynamics quality control (Figure 1). From the "cough wave patterns" that we got in the three different approaches during the same patient's UDS process, we can find that these different alternatives can all produce a "live cough wave pattern" like the classical "cough test," and these wave patterns can also meet our basic quality control requirements.

We would like to share our experience and consult experts whether the ICS had developed measures to improve urodynamic techniques in the current COVID-19 situation to prevent virus transmission between urodynamcists and patients, we are also eager to know the innovative ideas from other urodynamicists around the world.

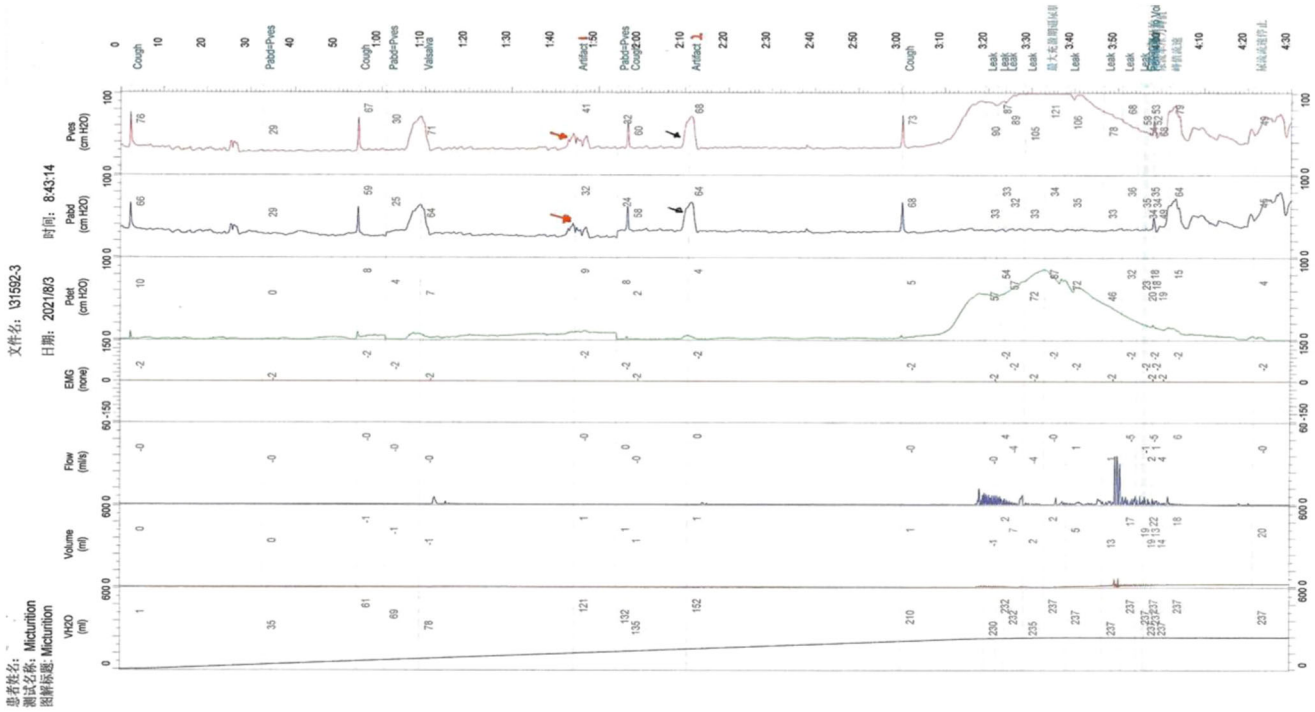

FIGURE 1 The "cough wave pattern" which generated by different alternative approaches in the same urodynamic study process. *The red arrow indicates the "cough wave pattern" induced by the first time "pressing quickly on the bladder area"; the black arrow indicates the "cough wave pattern" induced by the second time "pressing quickly on the bladder area"; the Valsalva marker indicates the "wave pattern" induced by doing Valsalva maneuver. All the "cough" markers induced by letting the patient close their mouth while doing the "cough test"

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

Xiao Zeng MD, MBA
Hong Shen MD
De-Yi Luo MD, PhD

Department of Urology, West China Hospital, Sichuan University, Chengdu, China

Correspondence
De-Yi Luo, MD, PhD, Department of Urology, West China Hospital, Sichuan University, Chengdu, China.
Email: luodeyi@scu.edu.cn

ORCID

Xiao Zeng https://orcid.org/0000-0002-6981-1915
Hong Shen https://orcid.org/0000-0003-1456-6999
De-Yi Luo https://orcid.org/0000-0002-9436-036X

REFERENCES

1. Schäfer W, Abrams P, Liao L, et al. Good urodynamic practices: uroflowmetry, filling cystometry, and pressure-flow studies. *Neurourol Urodyn*. 2002;21(3):261-274.
2. Sorel MR, Reitsma H, Rosier P, Bosch R, de Kort L. International Continence Society Good Urodynamic Practices and Terms 2016: urodynamics, uroflowmetry, cystometry, and pressure-flow study. *Neurourol Urodyn*. 2016;36:953-959.
3. Chen H, Guo J, Wang C, et al. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. *Lancet*. 2020;395:809-815.
4. Ehsanifar M. Airborne aerosols particles and COVID-19 transition. *Environ Res*. 2021;1:111752.
5. Mj A, Hp B, Bg A, et al. Transmission of COVID-19 virus by droplets and aerosols: a critical review on the unresolved dichotomy. *Environ Res*. 2020;188:109819.
6. Karaivanov A, Lu SE, Shigeoka H, Chen C, Pamplona S. Face masks, public policies and slowing the spread of COVID-19: evidence from Canada. *J Health Econ*. 2020;78:102475.
7. Li Y, Liang M, Gao L, et al. Face masks to prevent transmission of COVID-19: a systematic review and meta-analysis. *Am J Infect Control*. 2021;49:900-906.