Comment on “Detrusor pressures in urodynamic studies during voiding in women”

Françoise A. Valentini^{1,2} · Pierre P. Nelson¹

Received: 22 August 2017 / Accepted: 28 October 2017 / Published online: 25 November 2017
© The International Urogynecological Association 2017

Dear Editor,

The purpose of the authors was to demonstrate that “relaxation of pelvic floor muscles including normal urethral function is important for micturition in women” [1].

My first comment is related to the population. About half of the women had pelvic organ prolapse, but the grade is not specified. The authors suggest that prolapse reduction has little influence on the parameters of urodynamic studies. I agree with that suggestion because it has been demonstrated that reduction by vaginal pack of grade IV cystocele induces an improvement of urethral function, but has no influence on the detrusor.

My second comment is related to methodology. The ordered cystometry–pressure flow study and free uroflowmetry are not indicated, and we know that to perform free uroflow after intubated flow can induce a urethral reflex, leading to an overestimation of urethral obstruction [2].

My third comment is related to detrusor contractility. Two recent articles were devoted to detrusor contractility in women (influenced by aging and clinical condition) [3] and the algebraic fitting of nomograms, allowing evaluation detrusor contractility in women [4]. The detrusor contractility can be easily evaluated in women; lower than in men, its range is less spread out, but also adjusted to compensate for “urethral resistance”. Phasic detrusor overactivity and post-menopausal age significantly affect detrusor force value. Evaluation of detrusor contractility and urethral obstruction can be obtained from the point of maximum flow during pressure–flow study. Evolution with aging is similar, with (higher values) or without bladder outlet obstruction. Detrusor overactivity also

induces increased detrusor contractility. The conclusions of these articles provide answers to the authors’ comments on detrusor contractility in women.

My last comment is related to the role of the urethra during voidings with low detrusor pressure. The role of pelvic floor muscles is not debatable and no satisfactory explanation for the frequent association of high maximum flow rate and low detrusor pressure. Our proposal is that there is an important contribution of urethral elasticity: a low urethral resistance to dilatation due to changes in the histological structure of the urethral wall (unfortunately there is a lack of data on the histological structure) could explain voidings with low detrusor pressure [5].

Compliance with ethical standards

Conflicts of interest None.

References

1. Kira S, Mitsui T, Kobayashi H, Haneda Y, Sawada N, Takeda M. Detrusor pressures in urodynamic studies during voiding in women. *Int Urogynecol J*. 2017;28:783–7. <https://doi.org/10.1007/s00192-016-3203-1>.
2. Valentini FA, Robain G, Hennebelle DS, Nelson PP. Decreased maximum flow rate during intubated flow is not only due to urethral catheter in situ. *Int Urogynecol J*. 2013;24:461–7. <https://doi.org/10.1007/s00192-012-1856-2>.
3. Valentini FA, Nelson PP, Zimmern PE, Robain G. Detrusor contractility in women: influence of ageing and clinical conditions. *Prog Urol*. 2016;26:425–31. <https://doi.org/10.1016/j.purol.2016.03.004>.
4. Valentini FA, Marti BG, Nelson PP, Zimmern PE, Robain G. Usefulness of an algebraic fitting of nomograms allowing evaluation of detrusor contractility in women. *Prog Urol*. 2016;26:425–31. <https://doi.org/10.1016/j.purol.2016.06.010>.
5. Valentini F, Nelson P. Modeled analysis of the urethral resistance to dilatation (URD) in women. *Neurourol Urodyn*. 2016;35:S46.

✉ Françoise A. Valentini
francoise.valentini@rth.aphp.fr

¹ Université Pierre et Marie Curie (Paris 06), Paris, France

² Service de Rééducation Neurologique, Hôpital Rothschild, 5, rue Santerre, 75012 Paris, France