Re: The article “Detrusor pressures in urodynamic studies during voiding in women”

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Dear Editor,

The article “Detrusor pressures in urodynamic studies during voiding in women” [1] addresses an important element of the objective assessment of lower urinary tract function and dysfunction. Pressure flow analysis [2] is well understood in (elderly) male patients with signs and symptoms of lower urinary tract dysfunction and prostate enlargement [3]. However, pressure flow analysis has attracted much less clinical and scientific attention with regard to voiding in women. The manuscript carefully presents the data and demonstrates that micturition with and without observable detrusor pressure rise were identically effective. Nevertheless, the terms used throughout the manuscript may too easily cause confusion: “detrusor pressures,” “detrusor pressure rise,” “contraction,” and “contractility” are used in a pell-mell manner [4]. As is known from patients with caudal (or medullary conus) lesions, a bladder that does not contract, does not empty. From another perspective, if a bladder could empty without contraction, what replaces the intravesical volume in that situation (and how would that disappear when the kidneys continue producing, following on from the voiding)? Muscle contraction with little resistance is termed “unloaded contraction.” Unloaded contraction can be understood as follows (I am a Dutchman): I cannot push on my pedals (muscular force) when I am on my bike going downhill. However, this does not exactly reflect “contractility”; When I bike uphill, I go slower (velocity (=Q max) is reduced), but my leg muscles have (much) more force-

ful contractions. Voiding without detrusor pressure rise is a sign of unloaded contraction. The bladder contracts without much force, but with high velocity (= fast volume, ≈detrusor muscle length reduction). Male bladders are strong; female bladders are fast. Projected on the usual pressure flow nomograms (developed for men), almost all women void without bladder outflow obstruction and, contrary to what the article suggests with normal contraction. Voiding with “ P_{det-} ” (in the manuscript and tables: detrusor pressure “negative”) is definitely *not* “voiding without detrusor contraction” of the detrusor.

Compliance with ethical standards

Conflicts of interest No conflicts of interest.

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