



## Re: Solomon-Greenwell as the most accurate nomogram for female bladder outlet obstruction

### Respuesta: Solomon-Greenwell como el nomograma más preciso para la obstrucción de la salida de la vejiga femenina

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#### To the editor

We read with great interest the article by Castro-Núñez *et al.*<sup>(1)</sup> considering that to date there is no consensus on the urodynamic (UDS) criteria for diagnosing female bladder outlet obstruction (fBOO). We believe it is necessary to comment on two aspects of the article for a better interpretation of its results.

First it is necessary to clarify that the ICS document of 2002 defines “dysfunctional voiding” as an “intermittent and/or fluctuating flow rate due to involuntary intermittent contractions of the peri-urethral striated muscle during voiding,<sup>(2)</sup> in neurologically normal individual”, and that this term is no longer recommended in the latest ICS-SUFU standard of pressure-flow study analysis.<sup>(3)</sup> That is why we think that the authors of the commented article meant to refer to women diagnosed with “voiding dysfunction” (as a generic term) and not to women diagnosed with “dysfunctional voiding”. “Voiding dysfunction”, “a diagnosis by symptoms and urodynamic investigations, is defined as abnormally slow and/or incomplete micturition” by the ICS, “based on a repeated measurement to confirm abnormality”.<sup>(4)</sup>

Secondly, we would like to make some comments on the criteria used to diagnose fBOO, which certainly differ in quality.<sup>(5)</sup>

1) Any fBOO criteria should include not only urine flowrate but also detrusor pressure; in this sense, Farrar *et al.* criterion is not adequate for this purpose.<sup>(6)</sup>

2) The criteria of Chassagne *et al.*<sup>(7)</sup> Lemack and Defreitas involved the evolution of UDS diagnostic by the same group of researchers, in such a way that only the last study should be considered ( $p_{detqmax} \geq 25 \text{ cmh}_2\text{O} + Q_{max} \leq 12 \text{ ml/s}$ ).<sup>(8,9)</sup>

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3) In our opinion the Blaivas and Groutz nomogram is not good for two reasons: for its development it included patients with stress urinary incontinence in the control group (that have less bladder outlet resistance),<sup>(10)</sup> and it considers two different voidings and uses a detrusor pressure that does not correspond to the moment of lowest urethral resistance (pdetqmax not pdetqmax).

4) Solomon *et al.*<sup>(11)</sup> defined functional and anatomic fBOO using the video UDS criterion of Nitti *et al.*<sup>(12)</sup> They proposed a female bladder outlet obstruction index (BOOIf) calculated using the formula  $BOOIf = pdetqmax - 2.2 \times Qmax$ . For BOOIf values of  $>5$  and  $>18$  the probability of fBOO was 50% and 90%, respectively. That's why we consider better to use values of  $>18$ .

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