A comment about the quantitative analysis of normal vaginal shape and dimension

Ângelo do Carmo Silva Matthes^{1,2} • Gustavo Zucca Matthes^{3,4,5}

Received: 25 May 2016 / Accepted: 5 July 2016 / Published online: 15 August 2016
© The International Urogynecological Association 2016

In January 2016, the *International Urogynecology Journal* published online an interesting paper by Luo et al. [1] reporting a quantitative analysis of the variation in normal vaginal shape, axis, and size assessed by magnetic resonance (MRI). The authors stated that the large variations observed were not explained by height, body mass index, or other demographic variables and warned that these variations may have implications for reconstructive perineal surgery, vaginal delivery, and surgical product design [1].

The authors are definitely correct, since the vagina has three important functions that require its elasticity to be compatible with the purpose of each function: the first is permitting the exit of menstrual flow; the second is formation of the birth canal, which is limited by the bony wall of the pelvis; the third, frequently a constant for most women, is to receive semen from a penis during intercourse or simply to be penetrated for sexual practice—of a pleasurable kind whenever possible—that may require distention of its depth. The cited authors [1] reported that the mean length of the vagina is

9.8 cm. In turn, Matthes and Zucca-Matthes [2] reported that the maximum distensibility of the vagina is 3 ± 2.5 cm. In a systematic review of 17 studies, Veale et al. [3] reported that the average length of the erect penis is 13.24 cm, with a variation of $+ 1.89$ cm.

Since there is a group of women with a distended vagina measuring 10–13 cm and a group of men with a penis length >13.24 cm, it is easy to conclude that the relationship between these groups will involve incompatibility of size, with the possible development of relative short-vagina syndrome (RSVS) [4] leading to a poor quality of life for women. Thus, the study by Luo et al. [1] is important by showing that vaginal shape and size vary widely, although vaginal depth never exceeds the size of the penis. It would be of fundamental importance to confirm using magnetic resonance imaging (MRI) the size of the distended vagina and to determine the presence of injuries to tissues of the vaginal fundus [5] in order to confirm the limit of vaginal distensibility detected by Matthes and Zucca-Matthes [2] and to counsel women to avoid deep dyspareunia in order to enjoy a pleasurable sex life without pain or RSVS [4].

An author's reply to this comment is available at doi:[10.1007/s00192-016-3103-8](https://doi.org/10.1007/s00192-016-3103-8).

✉ Ângelo do Carmo Silva Matthes
amatthes@unaerp.br

Gustavo Zucca Matthes
anguz75@gmail.com

- ¹ Universidade de Ribeirão Preto-UNAERP, Ribeirão Preto, Brazil
- ² University of Ribeirão Preto, Av Costabile Romano, 2201, Ribeirão Preto 14096-000, SP, Brazil
- ³ Hospital de Câncer de Barretos, Barretos, Brazil
- ⁴ Faculty of Medicine of Botucatu - UNESP, Botucatu, Brazil
- ⁵ Cancer Hospital of Barretos, Barretos, Brazil

Compliance with ethical standards

Conflicts of interest None.

References

1. Luo J, Betschart C, Ashton-Miller JA, DeLancey JOL. Quantitative analyses of variability in normal vaginal shape and dimension on MR images. *Int Urogynecol J*. 2016. https://www.researchgate.net/publication/291952011_Quantitative_analyses_of_variability_in_normal_vaginal_shape_and_dimension_on_MR_images.

2. Matthes ACS, Zucca-Matthes G. Measurement of vaginal flexibility and its involvement in the sexual health of women. *J Women's Health Care*. 2016;5:302. doi:10.4172/2167-0420.1000302.
3. Veale D, Miles S, Bramley S, Muir G, Hodsoli J. Am I normal? A systematic review and construction of nomograms for flaccid and erect penis length and circumference in up to 15,521 men. *BJU Int*. 2015;115(6):978–86.
4. Matthes ACS, Zucca-Matthes G. Description of a medical condition: RSVS - Relative short vagina syndrome. *RBSH*. 2012;23:31–8.
5. Nasco PC, Vilos GA, Ettler HC, Abu-Rafea B, Hollet-Caines J, Ahmad R. Histopathologic findings on uterosacral ligaments in women with chronic pelvic pain and visually normal pelvis at laparoscopy. *J Minim Invasive Gynecol*. 2006;13:201–4. doi:10.1016/j.jmig.2006.02.002.

Online exclusive access at the SBRASH site: <http://www.sbrash.org.br/revistas/sobre-a-rbsh>. ISSN: 2236–0530.