



## Commentary to “Defining normal apical vaginal support: a relook at the POSST study”

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Received: 18 June 2018 / Accepted: 26 June 2018 / Published online: 11 July 2018  
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The Pelvic Organ Support Study (POSST) looked at 1011 women presenting for a routine annual gynecologic examination who were asked to complete a prolapse symptom questionnaire and underwent a Pelvic Organ Prolapse Quantification (POP-Q) examination [1]. At the time of the original publication in 2005, data was analyzed on the group as a whole, regardless of symptomatology, and differences between point C for cuff versus point C for cervix and intra-quartile ranges were not determined. The purpose of the study by Patnam et al is to reanalyze data from the original 2005 POSST retrospective data set looking to better define normal values for point C (vaginal cuff), point C (cervix), point D, and total vaginal length (TVL). Mean age of eligible women ( $n = 948$ ) >18 years of age presenting for annual gynecologic exams to six centers in the United States was  $42 \pm 14$  years.

In the 156 women who had a prior hysterectomy, mean values with standard deviations (SD) for POP-Q values were:

- Point C (vaginal cuff)  $-7.3 \pm 1.46$  cm
- Point C (cervix)  $-5.9 \pm 1.46$  cm
- Point D  $-8.7$  cm  $\pm 1.47$  cm,
- TVL (no hysterectomy)  $9.85$  cm  $\pm 1.29$  cm
- TVL (previous hysterectomy)  $8.9$  cm  $\pm 1.52$  cm

Apart from being a useful addition to observational studies on prolapse and providing indirect insights into natural history of prolapse/normal examination findings, the authors suggest the following:

- For cervical support, a normal POP-Q point C (cervix) value could vary between  $-4$  and  $-7$  cm.

- In women who have had a hysterectomy, the normal apical POP-Q point C (vaginal cuff) value can range between  $-6$  and  $-9$  cm.
- This might mean that in reporting surgical outcomes, it should be considered that restoring the cervix to at least  $-4$  cm or the cuff to  $-6$  cm brings them to a normal level.
- Alternatively, this may also suggest that once the cervix descends to  $\geq -3$  cm or within 3 cm of the hymen or the vaginal cuff to  $\geq -4$  cm or within 4 cm of the hymen, an apical suspension should be considered.

These suggestions are important clinically and in line with other studies, notably the one by Trowbridge et al. [2]. This re-analysis of the POSST study also indicates indirectly that following vault suspension, if anterior and posterior compartments are still well supported, there may be a considerable range of measurement for point C at which prolapse is usually not symptomatic enough to warrant labeling as recurrence. Likewise, Karmakar and Dwyer et al. reported that with their described extraperitoneal uterosacral vault suspension technique for posthysterectomy vault prolapse ( $n = 472$ ), these patients would still report excellent subjective outcomes in most cases [3]. This is despite the fact that the technique may, in many instances, only lend an elevation at apex of 3–4 cm due to the anatomy of the procedure [3].

The POP-Q classification is increasingly recognized as being susceptible to underestimating prolapse morbidity, especially in the context of a previous vault suspension, if no prolapse at POP-Q stage  $\geq 2$  is used as the cut-off either alone or as part of composite outcome measures [4], or if no prolapse Baden–Walker grade  $>1$  is used as the cutoff [5]. While the authors (Patnam et al) re-analysing the POSST study do not aim to suggest a ‘new normal’, this study (1) certainly opens up the possibilities of re-evaluating surgical outcome measures in prospective studies or reanalyzing existing publications with this accumulated information of normal distribution range from a large data set of epidemiologically diverse women. This is increasingly relevant in the era of evidence-informed medicine

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and especially so in the current medicolegal climate surrounding surgical interventions for pelvic floor dysfunction.

## References

1. Swift S, Woodman P, O'Boyle A, Kahn M, Valley M, Bland D, et al. Pelvic organ support study (POSST): the distribution, clinical definition, and epidemiologic condition of pelvic organ support defects. *Am J Obstet Gynecol.* 2005;192(3):795–806. <https://doi.org/10.1016/j.ajog.2004.10.602>.
2. Trowbridge ER, Fultz NH, Patel DA, DeLancey JO, Fenner DE. Distribution of pelvic organ support measures in a population-based sample of middle-aged, community-dwelling African American and white women in southeastern Michigan. *Am J Obstet Gynecol.* 2008;198(5):548.e541–6. <https://doi.org/10.1016/j.ajog.2008.01.054>.
3. Karmakar D, Dwyer P, Thomas E, Schierlitz L. Bilateral extraperitoneal uterosacral vault suspension technique for post hysterectomy vault prolapse: surgical complications and long-term outcome (Accepted for presentation at the 43rd IUGA annual conference, Vienna Austria 26th -30th June 2018). In review.
4. Barber MD, Brubaker L, Nygaard I, Wheeler TL, Schaffer J, Chen Z, et al. Defining success after surgery for pelvic organ prolapse. *Obstet Gynecol.* 2009;114(3):600–9. <https://doi.org/10.1097/AOG.0b013e3181b2b1ae>.
5. Maher CF, Qatawneh AM, Dwyer PL, Carey MP, Cornish A, Schluter PJ. Abdominal sacral colpopexy or vaginal sacrospinous colpopexy for vaginal vault prolapse: a prospective randomized study. *Am J Obstet Gynecol.* 2004;190(1):20–6. <https://doi.org/10.1016/j.ajog.2003.08.031>.