Reply

We would like to thank Chen *et al*. for their comment on our paper[1]. In this response, we gladly elaborate on the points raised by the authors.

The first point is related to the existence of other, more accurate methods to achieve automatic selection of the slice of minimal hiatal dimensions (SMHD). There are indeed other options to detect the SMHD automatically. When documenting our study, we failed to cite the recently published work by Williams *et al*.[2], which focused on the automatic identification of the SMHD based on the detection of the center of the pubic symphysis and the anorectal angle. Their method follows the official guideline for manual selection of the SMHD. The same group continued their work with a publication that coincided with the submission and revision of our paper[3]. In that study, the authors created a pipeline for automatic extraction of minimal hiatal dimensions, similar to the one presented in our study. The study by Williams *et al*.[3] also included evaluation of inter- and intraobserver variability in SMHD selection. Similar to our results, their pipeline demonstrated agreement with the manual assessment. In their study, the interobserver difference between two observers was larger than the difference between automatic segmentation and manual assessment by an observer. Therefore, we conclude that our method of selecting the SMHD is reliable, but a different approach can yield similar results.

The second question concerns the reliability of obtaining an image of the SMHD on Valsalva maneuver in patients with Stage-II or Stage-III pelvic organ prolapse using transperineal ultrasound (TPUS). To visualize reliably the SMHD on Valsalva maneuver in those patients, the observer has to allow the probe to follow the prolapse as it protrudes outside the vagina. This way the prolapsed organ(s) can move freely and the obtained images can provide reliable visualization of the extent of pelvic organ descent. The rules for selecting the SMHD do not change for TPUS volumes obtained on maximum Valsalva.

The third point concerns the time required for assessment by an automated pipeline *vs* a human observer. As mentioned in our original study, our pipeline can perform the full analysis in a few seconds. While we did not investigate the time it takes to perform the manual analysis, Williams *et al*.[3] reported a time of approximately 2.5 min. We would like to emphasize that our study was conducted in a research setting and the software used has not been commercialized yet. Our study is a proof of concept, and in order to make the software available clinically, it needs to be implemented by an ultrasound company.

We thank the authors for their closing comments and agree that the software for automatic segmentation of the SMHD, when properly implemented in a clinical setting, should standardize SMHD assessment and make it less time-consuming and observer-dependent.

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