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Response to Reviewers Comments:

We thank for the review of our manuscript and appreciate the reviewer's comments.

We address concerns as listed below (underlined):

Title: It must reflect the purpose of the study, that is "to define the MRI parameters differentiating urethral hypermobility (UH) and intrinsic sphincter defects (or deficiency, ISD)". –

New proposed title: MRI IN ASSESSMENT OF STRESS URINARY INCONTINENCE IN WOMEN: PARAMETERS DIFFERENTIATING URETHRAL HYPERMOBILITY AND INTRINSIC SPHINCTER DEFICIENCY.

Text:

Introduction:

1° paragraph: I recommend you to use de ICS definition of stress urinary incontinence (SUI).

We revised to include ICS definition in #1

3° paragraph: Videourodinamics usually does not include urethral pressure measurement. Urethral pressure profilometry (which allows to measure maximum urethral closure pressure, MUCP) may be combined with videourodynamics.

We revised paragraph #3 and included a new statement: Urethral pressure profilometry (which allows to measure maximum urethral closure pressure, MUCP) may be combined with videourodynamics.

Subjects and methods:

This is a prospective study where the MRI scans were reviewed 1 year post-imaging date. Wasn´t it a retrospective study where prospectively obtained data was analyzed?

We agree and revised accordingly.

It is necessary to know how patients with SUI were recruited because ISD is much less uncommon than UH and you finish with the same number of patients in each group.

We recruited consecutive women who met enrollment criteria for SUI and agreed to undergo MRI with the use of intraurethral imaging coil. The patient mix reflected the referral to the urogynecologist participating in the study. We revised the sentence to address the accrual pattern.

MRI Imaging Interpretation:

1° paragraph: I found some confusion in the text: Did you measure "urethral length" or "urethral sphincter length"?

We revised throughout to be consistent and state "urethral sphincter length".

2° paragraph I understood that the definition of UH considered the Q-tip test angle, so why do you describe UH using MRI?

We described UH by MRI, as we were able to observe hypermobility on MRI and wanted to correlate to Q-tip test standard in incontinent women and have means of comparing incontinent to volunteers who did not have Q-tip test, and we think this may be helpful information that is readily available on dynamic MRI.

Urodynamics exam:

1° paragraph:

Micro-tip catheter transducers are not the ICS standard due to up to 10 cm H_2O differences in intravesical pressure measurement depending of the position of the catheter tip in the bladder (Gammie A. Neurourol Urodyn 2014; 33: 370), although the presence of a distal sensor to measure MUCP might reduce this problem, due to a relatively "fixed" position of the catheter . This must be commented.

I understood that catheters were zeroed to the atmosphere. Please clarify.

How was the abdominal leak point pressure obtained (ALPP): only using Valsalva maneuver (VLPP) or did you also used cough?

We revised this paragraph *Urodynamics exam* to address the above.

Results:

2° paragraph: I want to know why you don´t comment on the statistical differences of "puborectalis muscle length".

We measured the puborectalis muscle length (results in Table1) and found no difference.

Although we listed results for all variables, we tried to limit comments to significant findings.

Table 3 is not cited in text.

We included citation for Table 3.

If you are predicting the diagnosis of UH: Did you use the variable "absence of bladder neck funneling"? Please clarify.

We used a variable bladder neck funneling present/absent as Funneling Y = 1, N = 0.

In the logistic model of UDs diagnosis regressed on bladder neck funneling and suprapubic urethral sphincter length.

Discussion:

3° paragraph:

To comment Q-tip test angles, you have to put the results in Table 1.

Again: Did you measure "urethral length" or "urethral sphincter length"?

Urethral sphincter length, and we revised throughout.

7° paragraph: To be discussed, the cut points used for "urethral length" (or "urethral sphincter length") and "suprapubic urethral length" must be described previously in Results.

Sentence added to results regarding the predicted probability of UH 0.529 cutoff that was associated with suprapubic urethral sphincter length above 3 cm.

Tables and Figures:

Table 1:

Some data are missing: 1) p-values of "funneling" and "normal vaginal shape";

We added the P values.

2) Q-tip test angles.

I would suggest to divide the column of "incontinent patients" into 2 columns: UH and ISD or to make a new Table to show the differences between UH and ISD.

Table 1. focus is on measureable MRI results and volunteers did not have urodynamics studies or Q-tip test done, hence Q-tip test not listed.

In our very small cohort we kept the continent and incontinent clinical and MRI results in Table 1 to report data for the two patient groups to represent the enrollment into these two groups. We present the combined results for the incontinent group in Table 1, while we use Tables 2 and 3 to focus on significant differentiating results for **suprapubic urethra sphincter length and bladder neck funneling for incontinent women.**

Table 2:

Again: "Suprapubic urethral length" is a continuous variable: What was the cut point used for the diagnosis of UH? This must be described in results.

In addition to Table 2, in the results we make a reference to the propensity score as per **Table 3 (**Probability of UH diagnosis, alternative propensity scores, and covariate and outcome values) where the predicted probability of UH 0.529 is associated with suprapubic urethral sphincter length above 3 cm.

Table 3: Not cited in text.

Citation added, as above.

Figue 2. B: Please mark the pubis (P).

Letter "P" for pubis was added.

Figure 3 and 4: Please add Pearson correlation and p value.

Pearson coefficient and P values were added.

Figure 7: Again: The cut points should be described in text and in the legend for the figure.

The optimal probability cut point was determined to be 0.52, added to the text.