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DIFFERENCES IN PESSARY SUPPORT BETWEEN SUCCESSFUL AND UNSUCCESSFUL FIT: AN ANALYSIS IN UPRIGHT POSITION.

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Introduction

Pessary treatment is a popular option for women with pelvic organ prolapse (POP), however success rates are limited, mainly due to poor pessary fit [1]. Previous research identified several possible pessary supporting mechanisms (e.g. bony structures, pelvic floor muscles and uterus), but scientific proof is limited [2]. In order to improve pessary treatment a better understanding of pessary support mechanisms is necessary.

Objective

The objective of this study is to identify pessary support mechanisms by comparing successful and unsuccessful pessary users.

Methods

Upright MR scans were performed with and without pessary in 30 successful and 29 unsuccessful users. Image analysis focused on the position and orientation of the pessary and pelvic organs, with respect to the Pelvic Inclination Correction System (PICS) reference line [3] and the LAM, performing a principal component analysis for comparison between groups.

Results

Upright MR imaging of pelvic anatomy and pessary support shows a lower pessary position with less LAM support in unsuccessful users as compared to successful users. Besides, in unsuccessful users without previous hysterectomy, the cervix is located more on top of the pessary, whereas in successful users the cervix is located at the center of the pessary, with the upper part of the pessary in the posterior fornix.

No significant difference was seen in bladder and cervix position between the groups while wearing the pessary.

Conclusion

These findings support the hypotheses that the pessary is kept in place by the LAM and the uterus lever mechanism, and not by the bony structures.

- [1] Manzini C, Morsinkhof LM, van der Vaart CH, Withagen MIJ, Grob ATM. Parameters associated with unsuccessful pessary fitting for pelvic organ prolapse up to three months follow-up: a systematic review and meta-analysis. Int Urogynecol J 2022;33:1719–63. https://doi.org/10.1007/S00192-021-05015-2.
- [2] Van den Noort F, de Alba Alvarez I, Van der Steen A, Smelt D, Simonis F, Grob A. Analysing the support mechanisms of the vaginal ring pessary on supine and upright MRI. Sci Rep 2024.
 [3] Reiner CS, Williamson T, Winklehner T, Lisse S, Fink D, DeLancey JOL, et al. The 3D Pelvic
- [3] Reiner CS, Williamson T, Winklehner T, Lisse S, Fink D, DeLancey JOL, et al. The 3D Pelvic Inclination Correction System (PICS): A universally applicable coordinate system for isovolumetric imaging measurements, tested in women with pelvic organ prolapse (POP). Computerized Medical Imaging and Graphics 2017;59:28–37. https://doi.org/10.1016/j.compmedimag.2017.05.005.

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Met opmerkingen [AB1]: Nu komt het een beetje over alsof we het al weten, zeker omdat je conclusie ook is dat het de LAM en de uterus zijn.

Eventueel hier overwgen:

Previous research identified several possible pessary supporting mechanisms (e.g. bony structures, pelvic floor muscles and the uterus), but scientific proof is limited an sometime contradictory.