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FEMALE PELVIC ORGAN PROLAPSE – VALUE OF DYNAMIC MRI IN DECISION ABOUT SURGICAL TECHNIQUE

Hypothesis / aims of study

Pelvic organ prolapsed (POP) is a major health care problem. Surgical repair of POP suffers from relativly frequent postoperative clinical failure (up to 40 %, depending on surgical technique). Failure to identity all of the involved compartments may result in incomplete surgical repair with subsequent persistence or recurrence of the prolapsed. We demonstrate the value of dynamic magnetic resonance imaging (MRI) in correct decision about surgicle technique and access.

Study design, materials and methods

This is an open, prospective, observational study of patients operated with the Prolift™ technique at one center between II. 2006 and XII.2008. A total of 80 women with clinically symptomatic POP were included in the study. Decision about anterior or posterior or total implantation was based on clinical examination. The pre- and postoperative evaluation (1 month, 3 months, 6 months and 1 year) comprised of a vaginal examination with the grading of the defect according to the POP-Q system of the ICS. Dynamic MR imaging of pelvic floor during straining and resting was performed before the operation to demonstrate descend in anterior and/or central and/or posterior compartment. Data from MRI were not included into decision about the extent of surgery. The surgical procedures were: Total Prolift repair - 35 (43,7%), Anterior Prolift repair 12 (15%) and Posterior Prolift repair 33 (41.3%). Overall, 77.5% women had a prior hysterectomy and 82.5% had a previous POP surgery. Concurrent procedures (vaginal hysterectomy, sacrospinous fixation, enterocele repair, levator ani myorrhaphy and sling procedures) were not performed.

During one year follow up clinical exam and postoperative dynamic MRI were performed to demonstrate objective effect of the operation. The MRI datasets were assessed by one experienced radiologist. The reference lines used to assess POP are shown in Fig. 1. Patiens were afterwards sorted into groups by agreements or discrepancy of clinical and MRI assessment of pelvic organ prolapse and by good and poor effect of the operation.

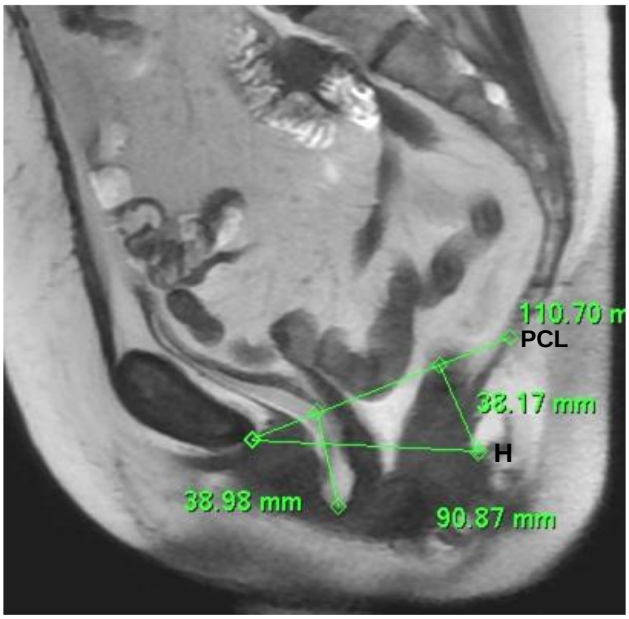

Fig. 1: MRI image obtained at rest through the pelvis of a 68-year-old woman with symptoms of pelvic organ prolapsed and clinical defects in all three compartments. The image shows the used reference lines. PCL-pubococcygeal line (straight line between the inferior rim of the pubic bone and the last visible coccygeal joint), H-line (straight line between the inferior rim of the pubic bone and the posterior wall of the anal canal on the level of the impression of the puborectal sling.

Results

The mean age was 57.2±8.7 years (range 34-84), mean BMI 27.1±2.6 (range 19.1-37.5) kg/m^2, and mean parity was 2.1±1.11 (range 0-8). Agreement of clinical and MRI assessment was in 48 patients (60 %), with only 2 (4%) postoperative clinical failure. Discrepancy was in 32 patients (40 %), with 10 (31 %) postoperative clinical failure. There are two main subgroups – A:16 patients (20 %) when clinical exam overestimate MRI assessment, with 1 (6 %) postoperative clinical failure and B:13 patients (16%) when clinical exam underestimate MRI assessment, with 8 (62%) postoperative clinical failure. In 3 (4 %) patients there was complete difference of clinical / MRI assessment of involved compartments (no postoperative clinical failure in this group).

Interpretation of results

There is only 60 % agreement of clinical and MRI classification of pelvic organ prolaps in our group. Because of very high (62%) postoperative clinical failure in subgroup B – we expect that the extent of surgery was not sufficient. In subgroup A – we expect that the surgery was too extensive what increase costs and surgical risk for patiens.

Concluding message

Dynamic pelvic floor MRI is noninvasive, effective diagnostic imaging method, which clearly demonstrates pelvic organ prolapse and supplement clinical evaluation in POP patients. Sufficient extent of surgery should result in improved long-term surgical outcomes and cost effectiveness.

Specify source of funding or grant	**NONE special grants or fundings were used for performing thsi study**
Is this a clinical trial?	**Yes**
Is this study registered in a public clinical trials registry?	**No**
Is this a Randomised Controlled Trial (RCT)?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**The Local Ethics Committee of The Institute for the Care of Mother and Child** **The Local Ethice Committee of The Central Military Hospital**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**