

Case Blog

Title: Overt Mismatch between Clinical and Imaging Findings in Pelvic Organ Prolapse (POP): Case Blog

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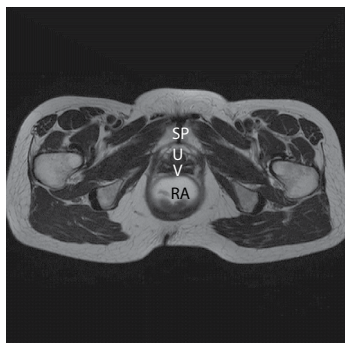


Figure 1 (left)

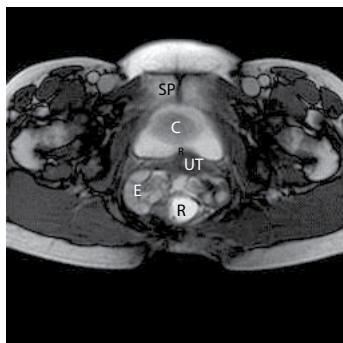


Figure 1 (right)



Figure 2 (left)

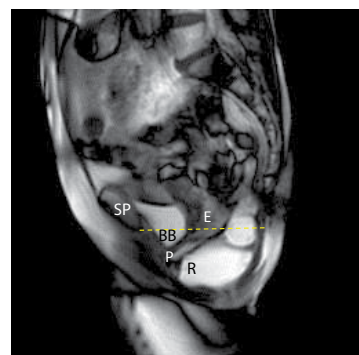


Figure 2 (right)

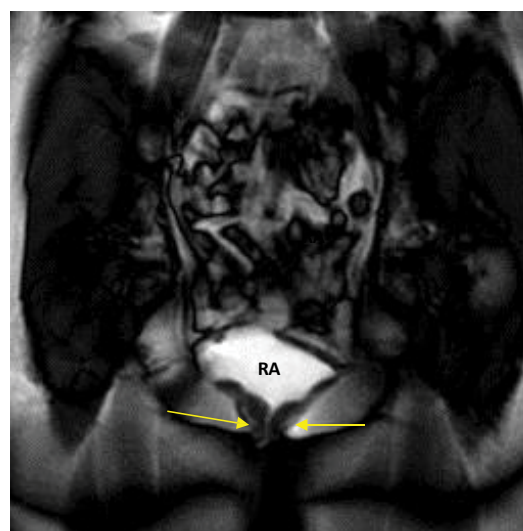


Figure 1: 59-year old woman with occasional symptoms of ODS of recent onset, mucous prolapsed and no rectocele at physical examination. MR Axial balance fast field echo (BFFE) pulse sequence taken at the same level of pubic symphysis in steady-state at rest (left) and on Valsalva maneuver (right) (TR/TE, 3/1.5 msec; FA, 45°; thickness, 10 mm; FOV 300 mm; Matrix 256x256; acq. time, 9 sec; Nex, 2). On straining, marked ballooning of the levator hiatus with a + 43% increase in the longitudinal diameter and +96% increase in the transverse diameter within which there are cystocele (C), enterocele (E) and rectocele (R), and prolapsed uterine cervix (UT); SP, symphysis pubis; V, vagina; U, urethra; RA, rectal ampulla.

Figure 2: MR Sagittal BFFE fast imaging (TR/TE, 2.7/1.3 msec; FA, 45°, thickness 30 mm, Matrix 256x256; FOV 300 mm; acq. time 43 sec; Nex, 2; tot. im, 50, 1m/sec 1/0.8 sec) obtained at the beginning (left) and after repeated attempts during expulsion (right) of rectal content (acoustic gel): clear depiction of 31.5 mm deep rectocele (R), enterocele (E), peritoneocele (P), and bladder base (BB) descent well below the hymen plane (dotted line); SP, symphysis pubis; RA, rectal ampulla; UT, uterus.

Figure 3: MR coronal BFFE fast imaging (TR/TE, 2.8/1.3 msec; FA, 45°; thickness 30 mm, Matrix 256x256; FOV 300 mm; acq. time, 44 sec; Nex, 2; tot. im, 50; im/sec 1/0.8 sec): lack of anal widening (arrows) during rectal expulsion consistent with anal sphincter hypertone, prolonged evacuation time (>4 min) and retention of contrast in a dilated rectal ampulla (RA).

Introduction

Since its first description by Lienemann et al. in 1997 [1], MR-defecography has gained widespread acceptance all over the world as a global method to determine the frequency of associated urinary, genital and anorectal abnormalities in women with pelvic floor dysfunctions. Despite comparable results, several studies [2] have suggested that MR-defecography surpasses the accuracy of both conventional (X-ray) defecography and clinical methods when assessing the presence and grading of POP. Today, clinicians have become progressively more and more familiar with it and come to rely heavily on MR imaging studies when diagnosing and selecting patients for appropriate therapies. The present report highlights the potential impact of MR-defecography on clinical decision making in an unusual case of overt mismatch between clinical presentation and imaging findings.

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Case Blog

A 59-year-old nulliparous female with a medical history of chronic thyroiditis and degenerative liver pathology of toxic origin, and chronic constipation experienced worsening of her bowel habit and stool pattern of recent (3-year) onset. The woman, an ever humourless and huffy professional dancer, 160 cm tall, 50 Kg body-weighted with no prior abdominal surgery or compliant, began suffering from occasional abdominal bloating, obstructive defecation syndrome (ODS), rectal bleeding and strain at stool during the last three years. At physical examination, while no more than a 1st degree descending perineum (reducible on Kegel maneuver) and no rectocele were observed on inspection, a severe anal sphincter hypertone was appreciated at digital examination despite no clue of pelvic floor musculature dyssynergia (solid sphere expulsion test, 1,200 gr. at rest; 1,700 gr. on squeezing; 900 gr. on straining). The integrity of both the perineal body and ano-vaginal septum was maintained at the bimanual examination. At anoscopy, besides evidence of a 1st degree mucous prolapse and of a typical straightening and verticalization of the anorectal junction on Valsalva maneuver, the probe was seen to be forcefully expelled outward the anal verge suggesting the presence of an underlying abnormality. Her coloproctologist (DG) was concerned that occult rectoanal intussusceptions might be present. After an effective cycle of pelvic floor musculature rehabilitation eventually leading to a satisfactorily 4-to-5/week stool frequency with no strain at stool nor rectal bleeding and/or episodes of fecal incontinence, the woman was referred to an outpatient diagnostic imaging centre for an MR-defecographic examination (PV) according to a previously described technique [3]. On axial MR imaging, (Figure 1) the pelvic floor anatomy looked quite normal at rest with regard to the position of pelvic organs, hiatus size, integrity of the levator any muscle and that of the support system of paraurethral and paravaginal attachments [4,5]. Conversely, on straining marked “ballooning” of the levator hiatus [6] developed with significant increase of its internal area beyond the normal threshold, i.e. > 25 cm², and impingement of all pelvic organs. Moreover, during evacuation of rectal content (Figure 2) the bladder base descended at + 12.8 mm, the Douglas cul-de-sac which contained small bowel (enterocele) at +28.2 mm, the uterine cervix at + 3.5 mm and the rectal floor at + 42.3 mm below the level of hymen plane taken as reference [7]. In addition, a 31.5 mm deep rectocele and severe outlet obstruction from anal sphincter dyssynergia (Figure 3) were also seen. Currently, the potential impact of such unexpected findings on clinical decision making is still under question [8]. Overall, their evidence at imaging does not necessarily mean that the surgical repair is indicated; rather, the clinician should be alerted about its option in case of symptom's worsening.

Discussion

Although several studies have shown imaging methods to be more accurate in showing pelvic floor defects and assessing their severity than findings obtained during physical examination [9], large defects requiring treatment detected on dynamic MR series but not being appreciated on physical examination, as with the current case, represent an unusual condition indeed. To our memory, this occurrence has not been mentioned before in the literature and seems to reaffirm the diagnostic limitations of the physical examination together with the need for an objective and simple method of global pelvic floor assessment, regardless of clinical presentation. Although most often patients present clinically with a symptom that is specific to a single pelvic compartment, the reported coexistence of multiple compartment defects is surprisingly frequent and accounts to over 95% according to Maglinte et al. [10]. Less frequently, however, it does occur that minimal symptoms and/or changes are found clinically despite overt defects depicted on imaging studies. A possible explanation for this is that some patients may deny all relevant symptoms when history is being taken by the referring physician, or admit just the most distressing. On the other hand, it should be reminded that, although physical examination and MR imaging are equally performed with the patient in the horizontal position, either supine or left lateral (Sims position), during the Valsalva maneuver the clinical assessment is limited to straining *without* subsequent rectal evacuation. Conversely, at imaging the patient is asked to strain maximally in order to obtain rectal emptying. As a consequence, while the lack of the gravitational effect is similar in both examinations, when actually evacuating the rectum a greater pelvic floor relaxation and raise in intra-abdominal pressure are achieved by MR-defecography in comparison to physical examination, thus leading to the detection of the full extent of pelvic organ prolapse, as it occurred in the reported case.

Conclusion

Actual defecation must be part of the imaging examination when assessing POP because it can change the clinical decision accordingly. However, even after overt mismatch between clinical findings and imaging, the issue of the proper therapeutic choice in an asymptomatic patient remains a matter of debate and the surgical option should not be given for granted. Today, the distinctive mark of MR imaging in POP is to add specific information about the disease and to contribute increasing enlightenment.

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