Evaluation of pelvic floor dysfunctions with Defeco-MR: an accurate MR protocol and a radiological template.

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Learning objectives

- To review MRI technique and protocol in the assessment of pelvic floor dysfunction (PDF).

- To identify signs that are useful for the surgeon

- To provide the key points for aradiological template

- To provide the key points for a radiological template.

Background

PFDs are a common clinical problem with a significant impact on the quality of life, especially in women. Moreover, 25% of population is affected by PFDs. The first approach is the anamnesis and the physical examination. However, since abnormalities of the three pelvic compartments are frequently associated, a complete evaluation of all the pelvis is needed to define the treatment strategy. Defeco-MRI is a valuable diagnostic tool to carry out a correct assessment about the functional and anatomical disorders of the pelvic floor.

Images for this section:

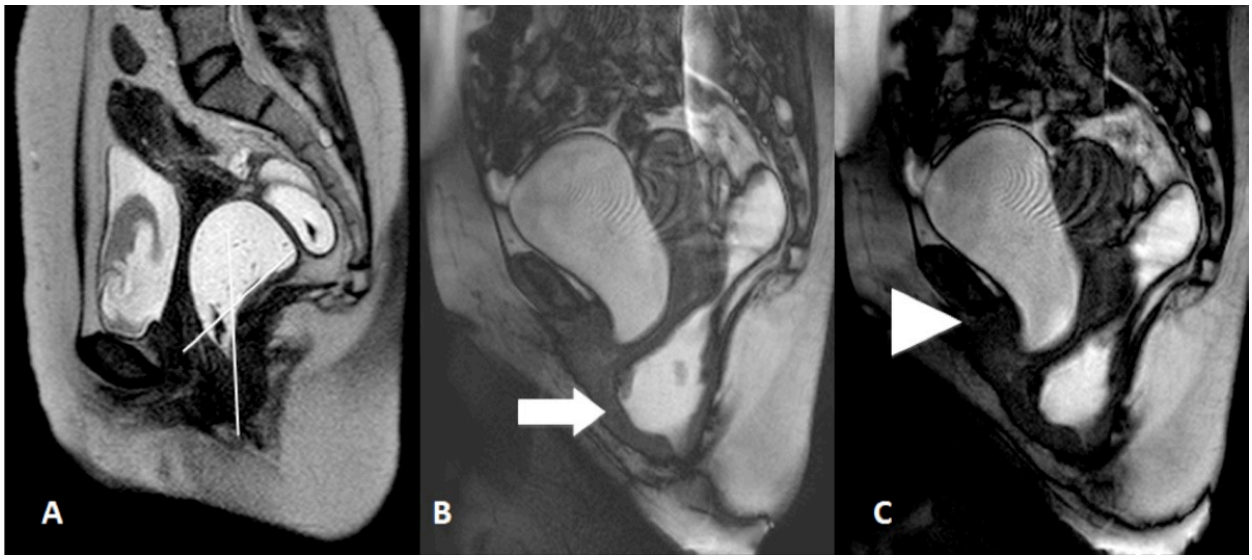

Fig. 1: Figure 1. Defeco- MR in a 55-year-old female presenting with tenesmus a: sagittal TSE-T2 demonstrates the anorectal angle (lines) during rest; b: sagittal Dynamic bFFE (balance Fast Field Echo) shows the anterior rectocele (arrow) during the squeezing; c: sagittal Dynamic bFFE (balance Fast Field Echo) shows the cystocele (arrowhead) during defecation.

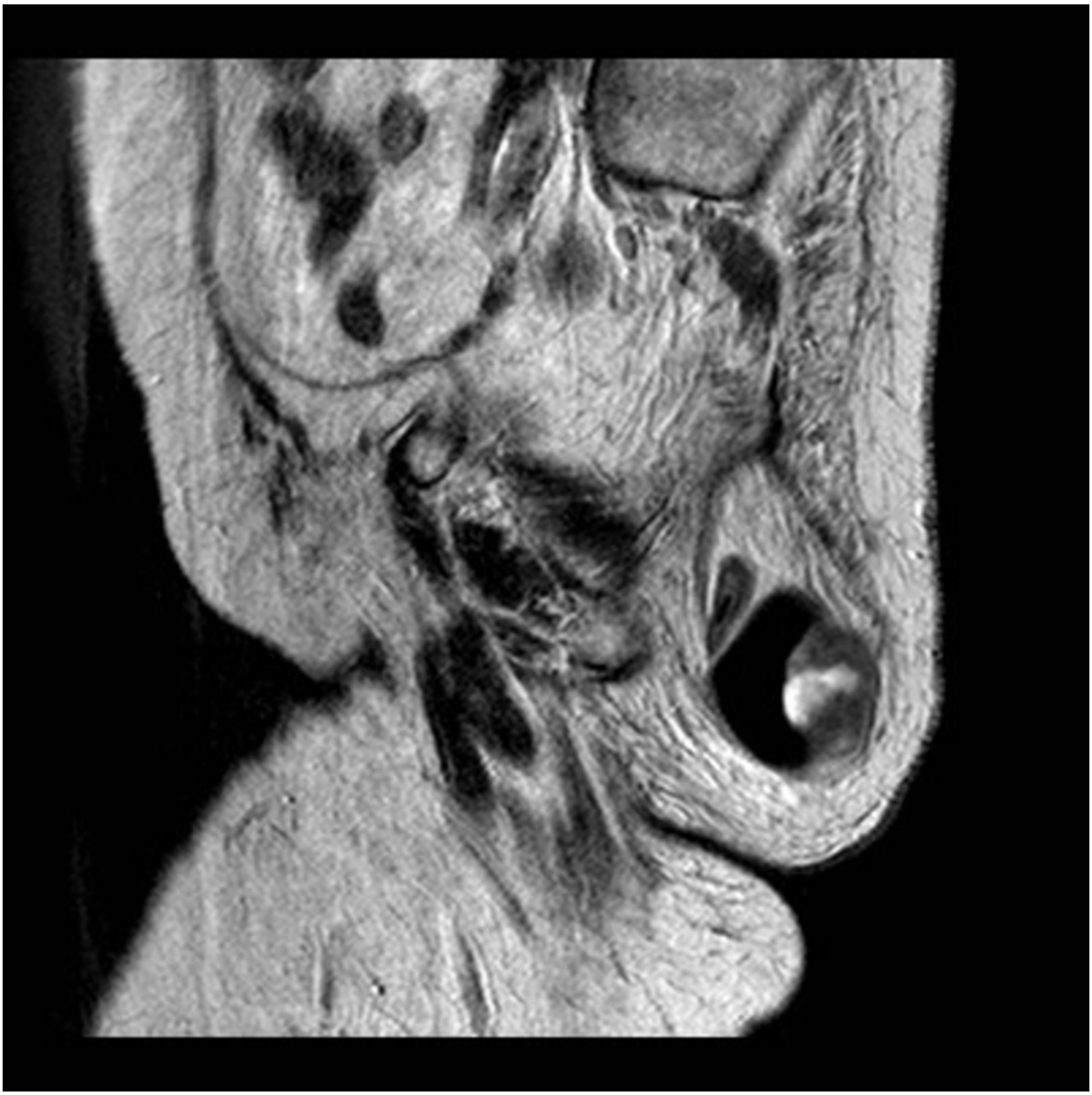

Fig. 2: Gluteus hernia

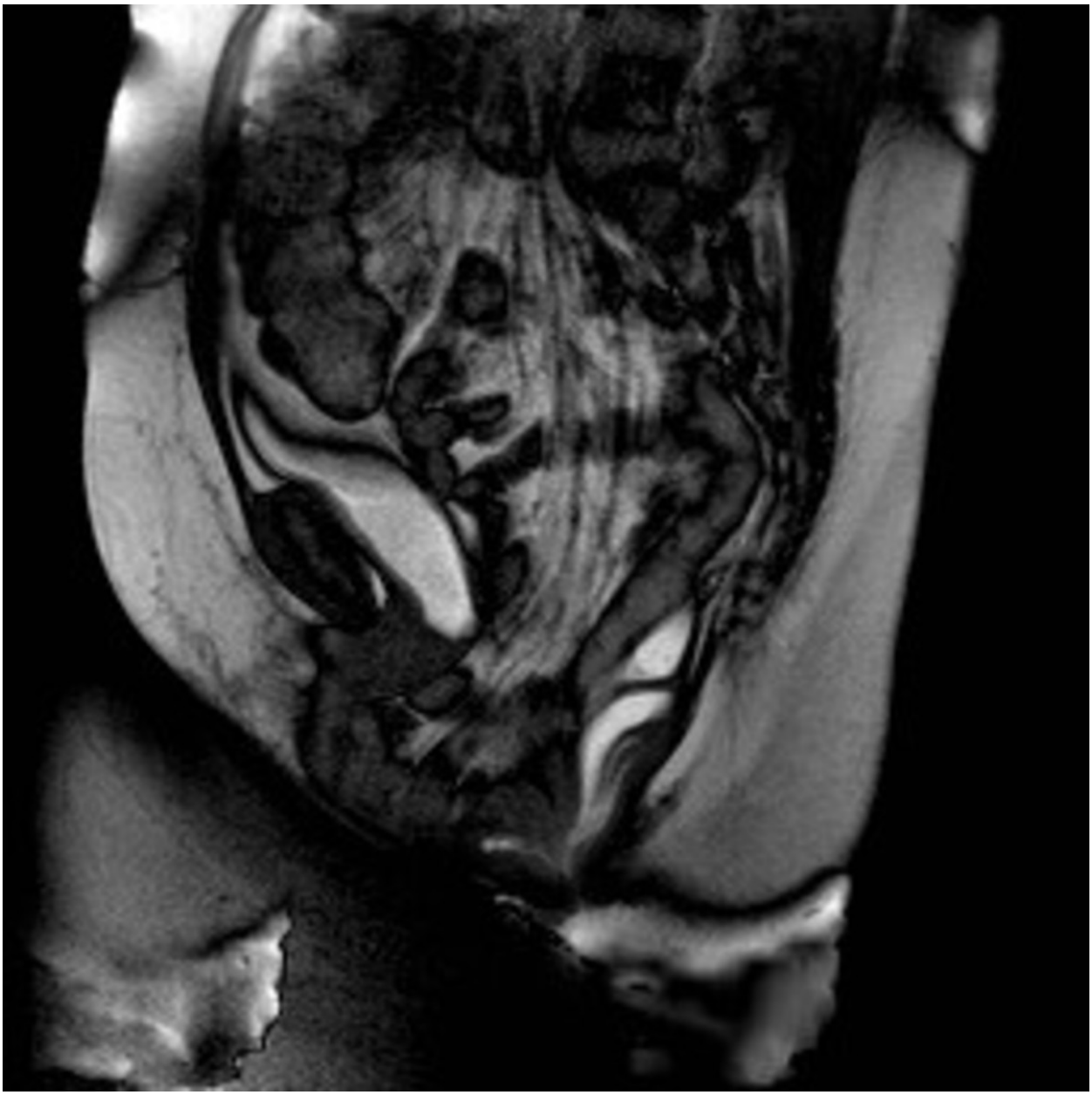

Fig. 3: Elitrocele

Findings and procedure details

Defeco-MRI allows seeing the squeezing, straining and defecation of the patients in a dynamic mode. The protocol provides for the use of phased array surface coil and the supine position of patient. The rectal filling is mandatory; we use 180-200 cc of sonographic gel. The protocol must include axial, sagittal and coronal TSE-T2. The steady-state sequence is used for the dynamic imaging, acquiring one section per second in the midsagittal plane at rest, during maximal sphincter contraction, straining and defecation (figure 1).

Radiological template must include the diameters of major anatomical references and the pathological condition.

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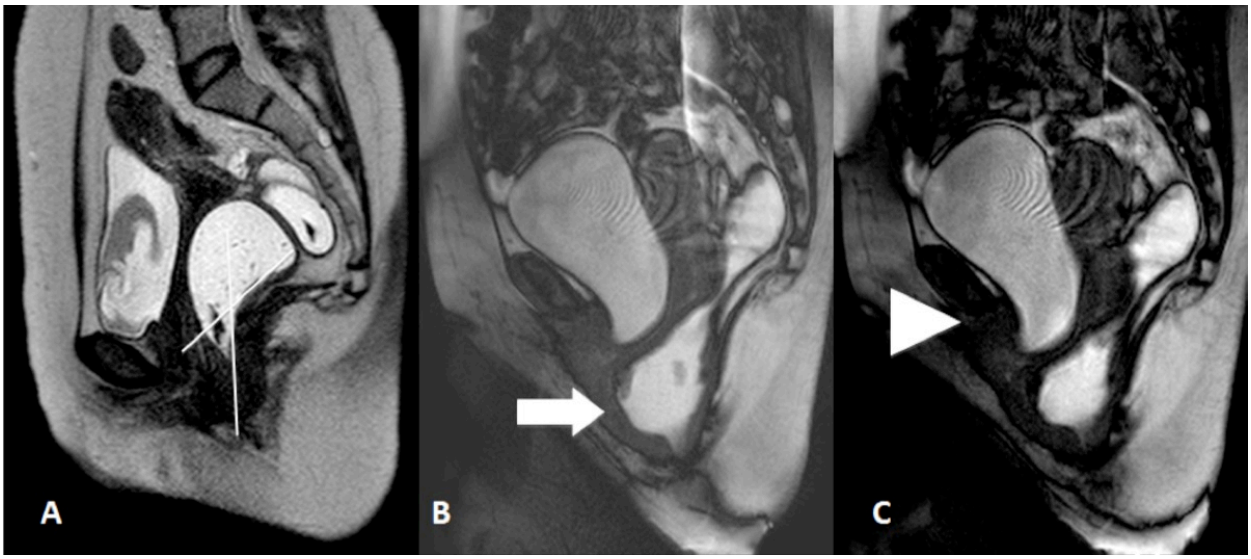

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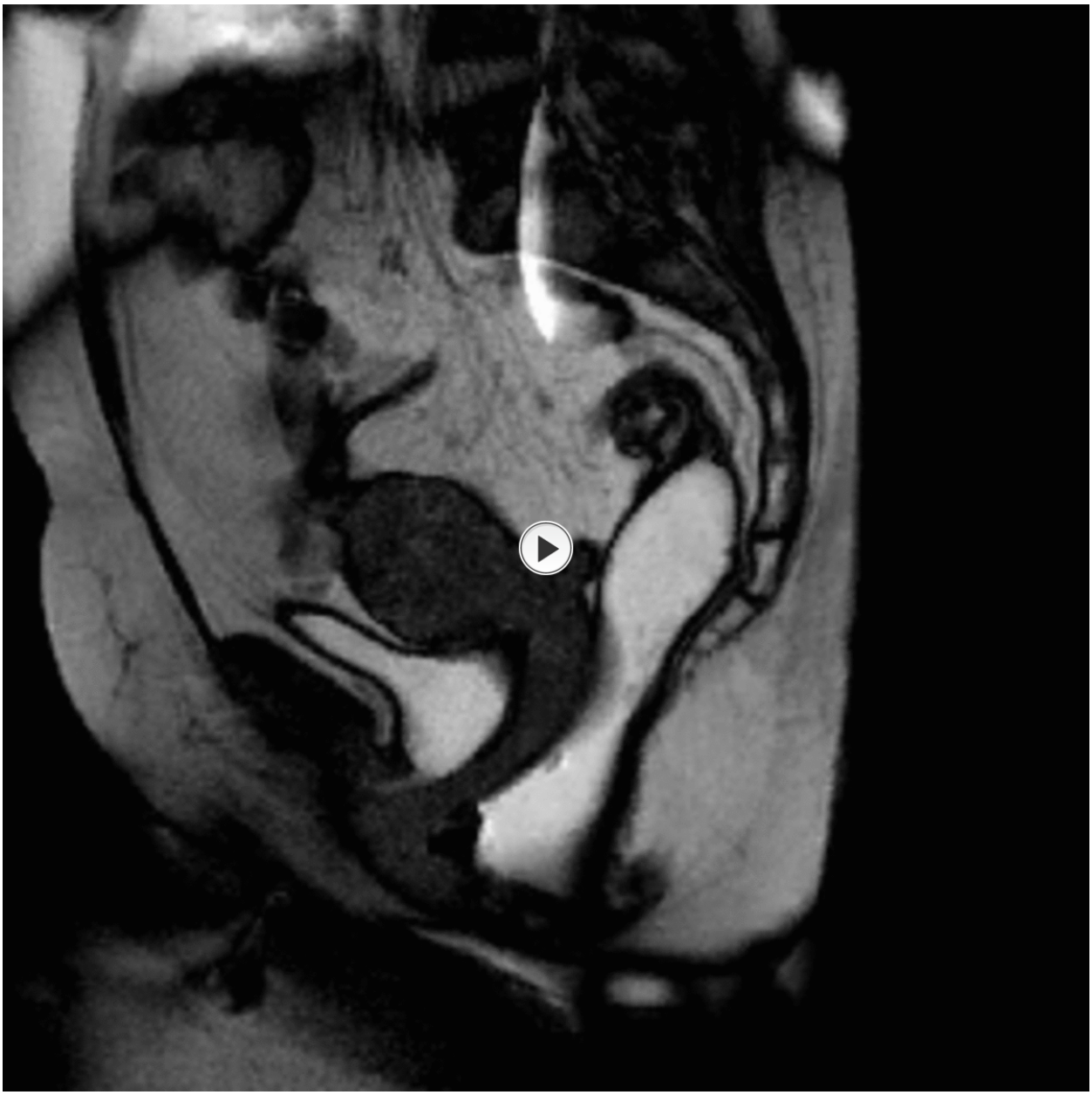

Fig. 4: Obstructed defecation syndrome in 51 years old woman with mild cystocele, rectum-rectal mucosal invagination, anterior rectocele.

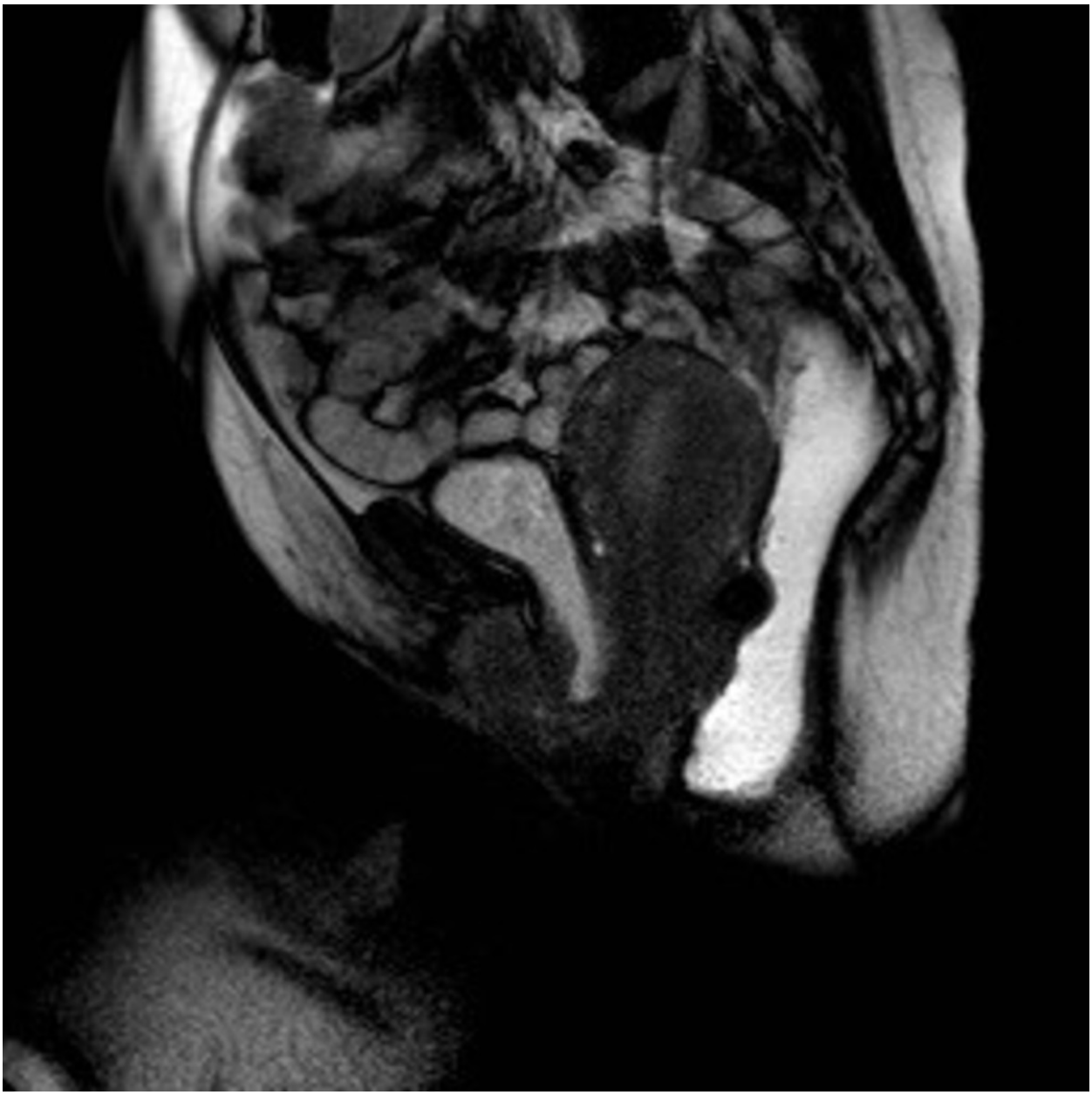

Fig. 5: Tricompartimental prolaps and anterior rectocele in 43 yo woman surgically treated with uterine cerclage.

Conclusion

PFDs are frequent and also complex conditions that can involve some or all pelvic viscera. A structured report helps in this aim to give a complete evaluation which is needed to define the treatment strategy.

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