ACR Appropriateness Criteria Pelvic Floor Dysfunction

Harpreet K. Pannu, MD[a], Marcia C. Javitt, MD[b], Phyllis Glanc, MD[c], Priyadarshani R. Bhosale, MD[d], Mukesh G. Harisinghani, MD[e], Nadia J. Khati, MD[f], Donald G. Mitchell, MD[g], David A. Nyberg, MD[h], Pari V. Pandharipande, MD, MPH[e], Thomas D. Shipp, MD, RDMS[i], Cary Lynn Siegel, MD[j], Lynn Simpson, MD[k], Darci J. Wall, MD[l], Jade J. Wong-You-Cheong, MD[m]

Abstract

Pelvic floor dysfunction is a common and potentially complex condition. Imaging can complement physical examination by revealing clinically occult abnormalities and clarifying the nature of the pelvic floor defects present. Imaging can add value in preoperative management for patients with a complex clinical presentation, and in postoperative management of patients suspected to have recurrent pelvic floor dysfunction or a surgical complication. Imaging findings are only clinically relevant if the patient is symptomatic. Several imaging modalities have a potential role in evaluating patients; the choice of modality depends on the patient's symptoms, the clinical information desired, and the usefulness of the test.

The ACR Appropriateness Criteria are evidence-based guidelines for specific clinical conditions; they are reviewed every 3 years by a multidisciplinary expert panel. The guideline development and review include an extensive analysis of current medical literature from peer-reviewed journals, and the application of a well-established consensus methodology (modified Delphi) to rate the appropriateness of imaging and treatment procedures by the panel. In instances in which evidence is lacking or not definitive, expert opinion may be used to recommend imaging or treatment.

Key Words: Appropriateness criteria, pelvic floor dysfunction, fluoroscopy, ultrasound, MRI

J Am Coll Radiol 2015;12:134-142. *Copyright © 2015 American College of Radiology*

SUMMARY OF LITERATURE REVIEW

Introduction/Background

Pelvic floor dysfunction is common and is an umbrella term for conditions such as urinary incontinence, pelvic organ prolapse (POP), anal incontinence, and defecatory dysfunction. History and physical examination are the key elements of patient evaluation. In addition, radiologic tests such as fluoroscopy, MRI, and ultrasound provide information about the pelvic floor. The availability and incorporation of these tests in clinical practice is not universal. Added value of radiologic imaging is in areas in which clinical evaluation is limited, such as severe or recurrent prolapse, enteroceles, and defecatory dysfunction. Although patients may have a predominant presenting symptom, pelvic floor abnormalities often involve multiple sites [1,2]. Assessment of all the pelvic compartments allows repair of all defects in a single surgical procedure [3-5].

[a]Memorial Sloan Kettering Cancer Center, New York, New York.
[b]Rambam Healthcare Campus, Haifa, Israel.
[c]Sunnybrook Health Sciences Centre, Bayview Campus, Toronto, Ontario, Canada.
[d]University of Texas MD Anderson Cancer Center, Houston, Texas.
[e]Massachusetts General Hospital, Boston, Massachusetts.
[f]George Washington University Hospital, Washington, DC.
[g]Thomas Jefferson University Hospital, Philadelphia, Pennsylvania.
[h]The Old Vicarage. Worcester Park, United Kingdom.
[i]Brigham & Women's Hospital, Boston, Massachusetts.
[j]Mallinckrodt Institute of Radiology, St. Louis, Missouri.
[k]Columbia University, New York, New York.
[l]Mayo Clinic, Rochester, Minnesota.
[m]University of Maryland School of Medicine, Baltimore, Maryland.
Corresponding author: Harpreet K. Pannu, MD, Attn: Dept. of Radiology Sloan Kettering Cancer Ctr. 1275 York Ave, New York, NY 10065-6007; e-mail: pannuh@mskcc.org.
Reprint Requests to: publications@acr.org.

The ACR seeks and encourages collaboration with other organizations on the development of the ACR Appropriateness Criteria through society representation on expert panels. Participation by representatives from collaborating societies on the expert panel does not necessarily imply individual or society endorsement of the final document.

© 2015 American College of Radiology
1546-1440/14/$36.00 ■ http://dx.doi.org/10.1016/j.jacr.2014.10.021

Overview of Radiologic Imaging Modalities

Mobility of the pelvic viscera is captured in real time by fluoroscopy and ultrasound. Organ opacification is required for fluoroscopy. Patients are imaged seated on a commode to maximize stress on the pelvic floor, replicate conditions causing symptoms, and assess the effectiveness of patient maneuvers to alleviate discomfort. For these reasons, fluoroscopic cystocolpoproctography (CCP), with opacification of the bladder, small bowel, vagina, and rectum, is the traditional imaging method for evaluating pelvic floor dysfunction.

Ultrasound is an important emerging technique in urogynecology for preoperative and postoperative imaging [6]. Transabdominal and transvaginal probes can be used for transperineal or transvaginal scanning of the bladder, urethra, and vagina during rest and strain. The anal sphincter is demonstrated with endoanal ultrasound. The patient is typically imaged without rectal contrast, which is not optimal for evaluating defecation disorders. In the postoperative patient, ultrasound has an important role in showing surgical implants and structural abnormalities. Ultrasound is readily available, but is operator dependent and requires appropriate skills, especially for anal sphincter and 3-dimensional imaging.

MRI has inherent soft-tissue contrast and lacks ionizing radiation. Dynamic MRI during patient straining or defecation demonstrates mobility of the pelvic organs and changes in the genital hiatus. Static MRI displays the morphology of the anal sphincter and pelvic floor musculature. Patients are typically imaged in the supine position, which can limit assessment of defecatory dysfunction. Acute, typically postoperative, conditions affecting patients are evaluated with CT.

Pelvic Organ Prolapse

POP is abnormal descent of the vagina, involving the anterior wall, posterior wall, and/or apex [6]. This is usually secondary to protrusion of adjacent pelvic viscera and can be symptomatic. Abnormal descent can be due to cystocele, uterine procidentia, enterocele, or rectocele [7].

The limitations of physical examination create a role for imaging for patients with POP. Prolapsing pelvic viscera are assessed only indirectly by palpation, which hinders correct identification. In addition, support defects are underdiagnosed on physical examination, compared with surgical assessment [8]. Clinical examination tends to work better in patients with anterior and middle-compartment prolapse, higher stages of prolapse, and those with multiple defects. However, in severe prolapse, the contribution of specific viscera can be difficult to delineate with this method [8,9].

Imaging identifies the specific pelvic viscera that are causing a bulge in the vagina. In patients with severe prolapse, this delineation of the involved viscera can alter the approach to surgical repair [10]. In addition, imaging confirms whether clinically diagnosed POP is present, and can reveal POP in clinically unsuspected compartments, both of which can alter diagnosis and affect operative management [10,11]. Of all the prolapsing pelvic viscera, enterocele in particular is diagnosed more often on imaging compared with physical examination [12,13]. Approximately 50%-80% of enteroceles seen on fluoroscopic CCP are missed on physical examination [10,13]. More enteroceles have been reported on MRI, compared with physical examination, as well [9]. In addition, most sigmoidoceles seen on imaging are clinically occult [13].

Therefore, radiologic imaging can complement the clinical evaluation of POP by revealing clinically occult abnormalities and evaluating patients with complex presentation. Global assessment is necessary, as prolapse is often seen in multiple compartments, even though one is predominantly symptomatic [1,2,7,14,15]. Overdistended viscera can impede prolapse of other organs and should be avoided during imaging. Fluoroscopic CCP, because it is performed with the patient in the seated position and with increased abdominal pressure during defecation, is the main radiologic test to evaluate patients with POP [7,16]. Dynamic MRI of the pelvis is a feasible alternative in situations in which defecatory dysfunction is not the primary concern; visualization of the soft tissues of the pelvic floor is desired; radiation is a concern; fluoroscopic equipment is unavailable; or expertise in performing fluoroscopic studies is limited. Although MR defecography with the patient in the seated position on a commode, similar to fluoroscopic CCP, would be ideal, the lack of availability of such MRI scanners in general practice is a limitation [17].

As with fluoroscopic CCP, POP can be depicted in all compartments with MRI [15]. The detection rate of POP has been reported to be lower on supine MRI compared with fluoroscopy and upright MRI, in particular for enteroceles and MRI scans without rectal contrast [17,18]. Rectal contrast, repeated Valsalva maneuvers, and defecation can help reduce false-negative results for POP [14,15,18-21]. Incomplete evacuation of rectal contrast due to a supine patient position on MRI can result in underestimation of the severity of POP [16-18].

Transperineal ultrasound, like fluoroscopic CCP and MRI, demonstrates bladder, urethral, and cervical hypermobility [22]. Other than showing anal sphincter defects, the role of ultrasound in the posterior compartment is less clear [12,22-25]. The patient is typically imaged without rectal contrast on ultrasound, which can limit the full extent of straining and is not optimal for evaluating defecation disorders [26]. Factors influencing ultrasound results include operator expertise, probes used, pressure applied by the operator, and patient position and Valsalva effort [27].

Download English Version:

https://daneshyari.com/en/article/6245292

Download Persian Version:

https://daneshyari.com/article/6245292

Daneshyari.com