Recurrent Internal or External Rectal Prolapse

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2025

Obstructed defecation Evaluation and Treatment

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ODS, POP: how to approach Colorectal Surgeon insight

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Defecation :

- the normal process of evacuating stool from the rectum.
- It involves a complex interaction of normal motility of the gastrointestinal tract, contractile function of the rectum, coordination of the pelvic floor musculature, and relaxation of the anal sphincter mechanism.

Obstructed defecation

Anorectal outlet obstruction, also known as obstructed defecation syndrome (ODS)

it is a pathological condition due to a variety of causes

It is characterized by an impaired expulsion of

the bolus after calling to defecate.

POPS

It is a complex disorder due to anatomical changes in the pelvic support structures which results in the downward descent of any of the pelvic organs through the muscular pelvic floor.

S. R. Steele et al. (eds.), The ASCRS Textbook of Colon and Rectal Surgery, Springer Nature Switzerland AG 2022 https://doi.org/10.1007/978-3-030-66049-9_1

Etiology

- **The etiology is multifactorial.**

Table 65.1 Established risk factors for primary and recurrence pelvic organ prolapse

Primary POP	Recurrent POP
Vaginal parity	Age younger than 60 years at time or primary vaginal repair
Advancing age	Obesity
Obesity	Stage III or IV prolapse at initial presentation

Primary POP is defined as symptomatic POP with clinical evidence of prolapse beyond the introitus. Recurrent POP is defined as the need for surgery following primary repair

Other risk factors for primary or recurrent POP:

1. chronic constipation
2. connective tissue disorder
3. Menopause
4. Smoking
5. family history
6. pulmonary disease, diabetes

(D. Patterson et al.,Middle and Anterior Pelvic Compartment: Issues for the Colorectal SurgeonThe ASCRS Textbook of Colon and Rectal Surgery, Springer Nature Switzerland AG 2022 https://doi.org/10.1007/978-3-030-66049-9_1)

Approach to Patient with Prolapse

A proper history and physical exam should focus on urinary, defecatory, and sexual function

Three-axis perineal evaluation (TAPE)

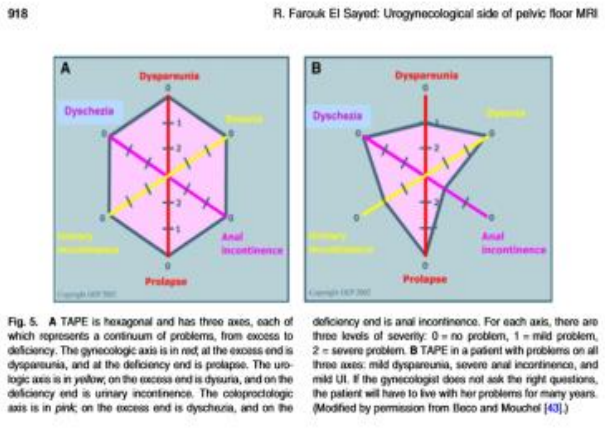


Fig. 5. **A** TAPE is hexagonal and has three axes, each of which represents a continuum of problems, from excess to deficiency. The gynecologic axis is in *red*; at the excess end is dyspareunia, and at the deficiency end is prolapse. The urologic axis is in *yellow*; on the excess end is dysuria, and on the deficiency end is urinary incontinence. The coloproctologic axis is in *pink*; on the excess end is dyschezia, and on the deficiency end is anal incontinence. For each axis, there are three levels of severity: 0 = no problem, 1 = mild problem, 2 = severe problem. **B** TAPE in a patient with problems on all three axes: mild dyspareunia, severe anal incontinence, and mild UI. If the gynecologist does not ask the right questions, the patient will have to live with her problems for many years. (Modified by permission from Beco and Mouchel [43].)

Evaluation of the patient with POP

Table 65.2 Symptoms associated with pelvic organ prolapse

Pelvic organ function	Symptoms
Sexual function	Bulging, heaviness, pressure, pain, decreased pleasure, decreased body image
Urination	Leaking, urgency, frequency, weak stream, feeling of incomplete emptying, splinting, positional voiding, pain
Defecation	Stool or flatus leakage, feeling of incomplete evacuation, straining, urgency, splinting or digitizing to evacuate, pain

(R. Farouk El Sayed: Urogynecological side of pelvic floor MRI Abdom Imaging (2013) 38:912–929 DOI: 10.1007/s00261-012-9905-3), (D. Patterson et al.,Middle and Anterior Pelvic Compartment: Issues for the Colorectal SurgeonThe ASCRS Textbook of Colon and Rectal Surgery, Springer Nature Switzerland AG 2022 https://doi.org/10.1007/978-3-030-

Obstructed defecation

is sometimes troublesome for the patient and surgeon, and it can be difficult to manage even for the most experienced clinicians.

Obstructed defecation

- *The anatomical and pathophysiological changes that occur with obstructed defecation are varying, often incompletely understood, and in many cases without ideal outcomes.*

Obstructed defecation

- Patients usually present with a general complaint of constipation and have previously tried the medications in an effort to relieve their symptoms.
- Patients frequently resort to laxatives, suppositories, or enemas in an effort to relieve symptoms but sometimes with only limited improvement.

Obstructed defecation

- Physicians need to have an organized approach to manage these patients optimally.

- Improvements over the past few years in our understanding of the complex process of constipation and defecation, along with the increasing use of radiological and anorectal physiology studies, have led to improved treatment results.

Patients complain of different symptoms, including:

- incomplete evacuation with or without painful effort,
- unsuccessful attempts with long periods spent in bathroom
- return visit to the toilette,
- use of perineal support,
- manual assistance (insertion of finger into the vagina or anal canal),
- Straining
- dependence on enema and/or laxatives.

The pathogenesis of ODS

- The main interest in the pathogenesis of ODS is between functional and mechanical causes.

- In ODS, anatomical findings must always be matched with patients' complaints and quality of life.

Causes of ODS

Anismus:

1. Failure to relax the anal sphincters or paradoxical contraction of the puborectalis muscle
2. It is considered the main and most frequent functional causes of ODS.

Causes of ODS

Rectocele:

1. defined as a herniation of the rectal wall through a defect in the posterior rectovaginal septum in the direction of the vagina.
2. Rectocele may be classified according to its position (low, middle, high), size (small <2 cm, medium 2–4 cm, large >4 cm) and degree (using Half-way system or POP-Q system).
3. ***It is very frequent in healthy asymptomatic women and it should not be considered a pathological condition only because it is evident at clinical examination or at the defecography.***

Causes of ODS

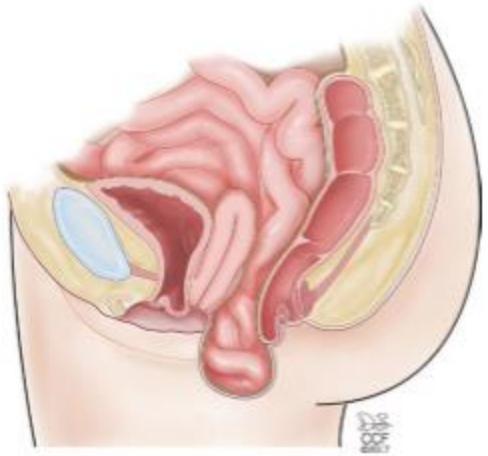
Intussusception:

1. defined as an invagination of the rectal wall into the rectal lumen.
2. It may be described as anterior, posterior, or circumferential.
3. It may involve the full thickness of the rectal wall or only the mucosa
4. it can be classified as intrarectal, intra-anal or external.

Causes of ODS

Enterocele and *sigmoidocele* :

1. it is a hernia of the small bowel or sigmoid colon into the pouch of Douglas, which protrudes into the posterior vaginal wall and needs to be differentiated from a true rectocele.
2. It may be symptomatic, causing symptoms of outlet obstruction, and it can also lead to voiding dysfunction.



Causes of ODS

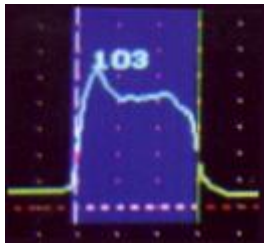
SRUS:

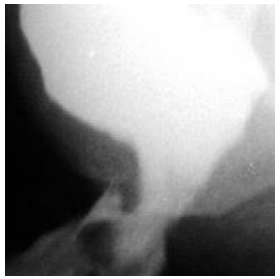
Which is a combination of:

1. intussusception
2. anismus
3. intra-anal digitation.

Integrated Coloproctology

$$Flow = \frac{(Mean\ Intra\text{-}rectal)\ Pressure}{Resistance}$$





Investigations for POP:

- Anorectal manometry.
- Defecography.
- Pudendal nerve terminal motor latency.
- Colonic transit time.
- Urodynamics.
- Dynamic Endorectal Ultrasound
- MRI defecography

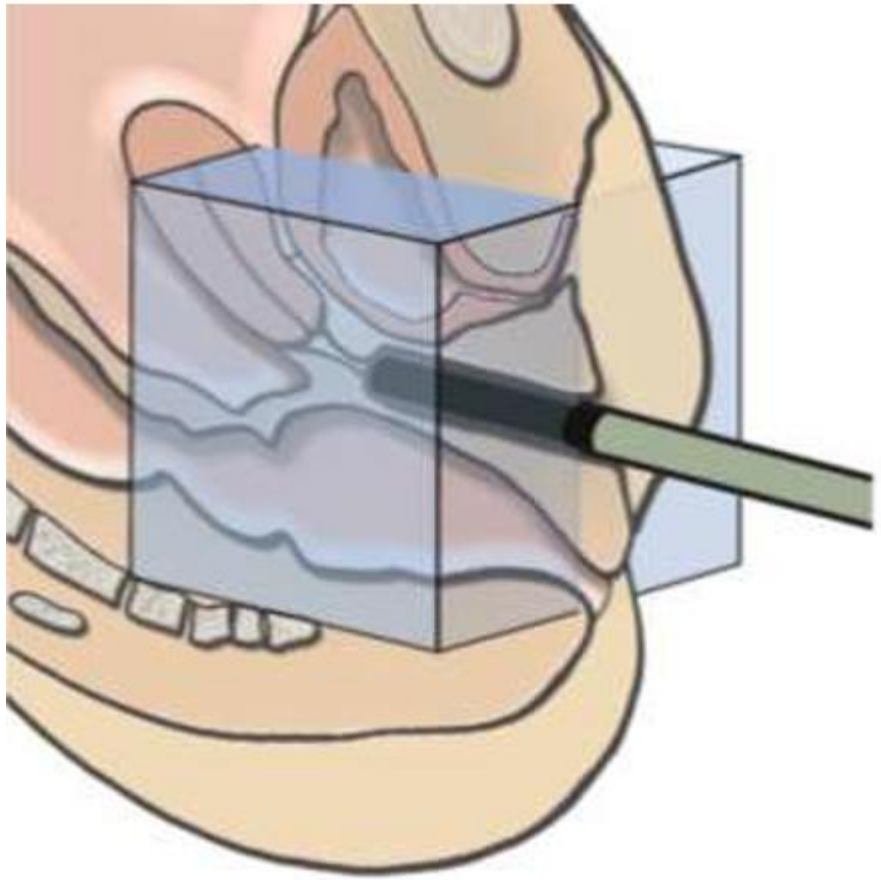
(Victor W. Fazio, James M. Church, Conor P. Delaney and Ravi P. Kiran, Current therapy in colon and rectal surgery, third edition, 2017, p 107.)

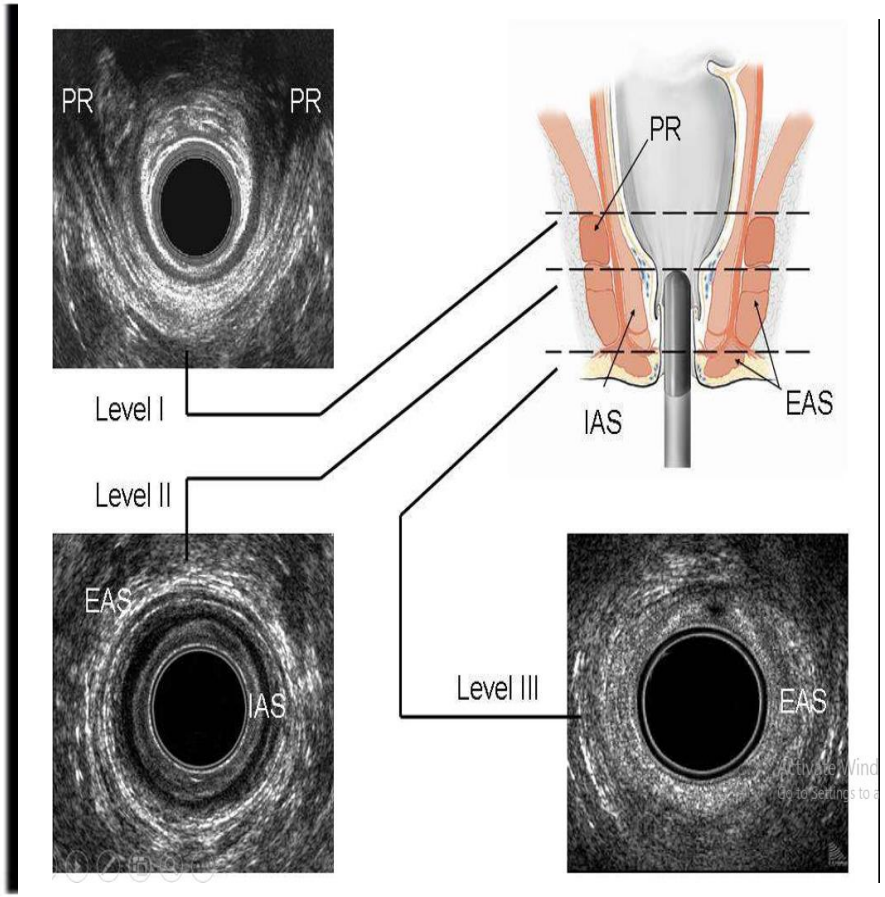
Investigations of ODS

Table 59.1 Physiological and imaging testing for obstructed defecation syndrome

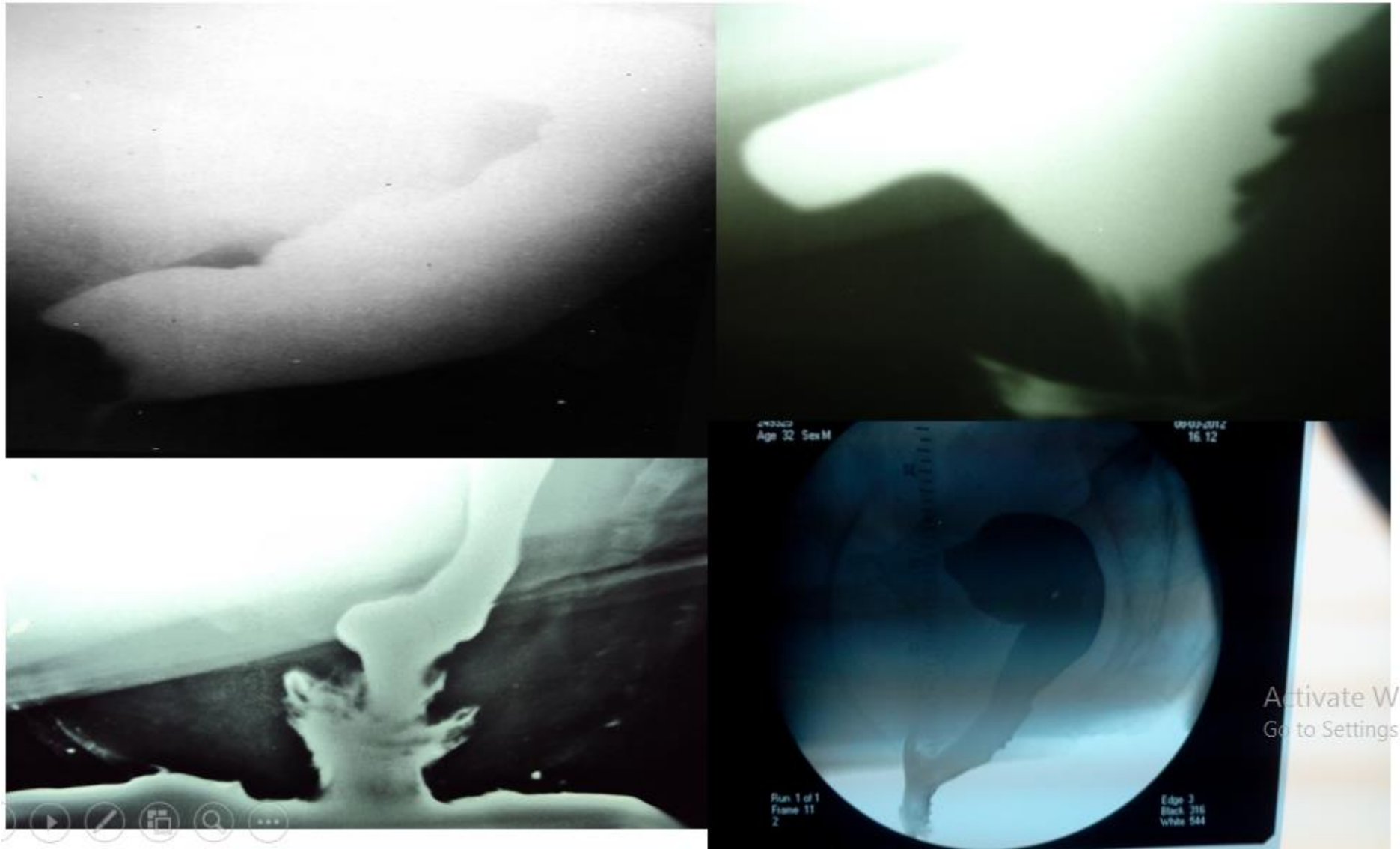
Test	Purpose	Message
Anorectal manometry/ high-resolution anal manometry (HRAM)	Measurement of pressures in the anal canal Assessment of the rectoanal inhibitory reflex (RAIR), rectal sensitivity and compliance Assessment of anismus	Resting pressure = function of the internal anal sphincter Squeeze pressure = function of the external anal sphincter Loss of the reflex typically in Hirschsprung patients HRAM: Color differentiated waveform
Cinedefecography	Evaluation of the dynamic of evacuation after filling the rectum with a barium paste and the bowel with barium and/or the vagina with jelly	Evaluation of rectocele, enterocele, internal prolapse, perineal descent, anorectal angle
Echodefecography	Dynamic ultrasonography evaluation of the anal canal. Evaluation of rectocele, enterocele, internal prolapse, perineal descent after filling the rectum with ultrasound gel	Judgment of the integrity of sphincter muscles (defect?) Hypertrophy of the internal anal sphincter? Structural abnormalities
Colonic transit time study with radiopaque markers	Evaluation of the pattern of evacuation and demonstration of retention of the radiopaque markers	Diffuse spread of radiopaque markers typically for STC Collection of markers in the pelvis as sign for ODS
MR defecography	Functional judgment of the pelvic floor and the internal organs and their mobility	Structural substrate (e.g., rectocele) or only functional disorder (e.g., anismus)
EMG of the pelvic floor	Judgment of the motor unit potentials (MUP) Interference pattern	Loss or alteration or signs of denervation or reinnervation; Malfunction of muscle groups (e.g., anismus)
Pudendal nerve terminal motor latency (PNTML)	Function of the nerve supplying the pelvic floor	Useful for prognosis, if surgery is planned

Ultrasonographic imaging in ODS





DEFECOGRAPHY for ODS



MRI defecography

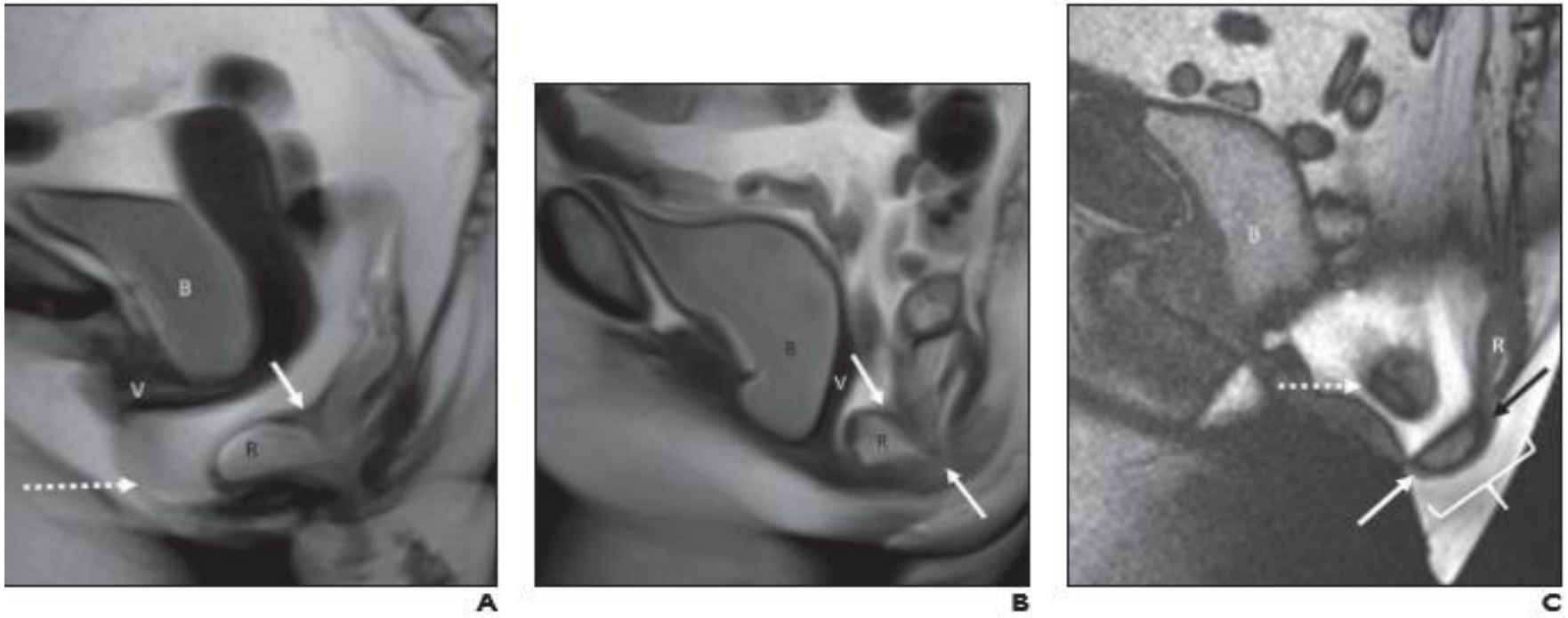


Fig. 7—Sagittal steady-state images in different patients during defecation. B = bladder, R = rectum, V = vagina.
A, Solid arrow shows invagination of anterior and posterior rectal walls into more distal rectum for short distance, consistent with intrarectal intussusception. Large fat-containing peritoneocele is seen (*dashed arrow*).
B, Arrows show invagination of anterior and posterior walls of rectum into anal canal consistent with intraanal intussusception.
C, Sagittal image during defecation in third patient shows widened anal canal (*brackets*) with complete rectal inversion and external (extraanal) prolapse (*arrows*). There is also sigmoidocele behind inverted rectum nearly extending into anal canal (*dashed arrow*).

Kasr Al-Ainy Colorectal Unit

MRI defecography

Consensus Definitions and Interpretation Templates for Magnetic Resonance Imaging of Defecatory Pelvic Floor Disorders: Proceedings of the Consensus Meeting of the Pelvic Floor Disorders Consortium of the American Society of Colon and Rectal Surgeons, the Society of Abdominal Radiology, the International Continence Society, the American Urogynecologic Society, the International Urogynecological Association, and the Society of Gynecologic Surgeons

Brooke H. Gurland, MD[1], Gaurav Khatri, MD[2], Roopa Ram, MD[3], Tracy L. Hull, MD[4], Ervin Kocjancic, MD[5], Lieschen H. Quiroz, MD[6], Rania F. El Sayed, MD[7], Kedar R. Jambhekar, MD[3], Victoria Chernyak, MD, MS[8], Raj Mohan Paspulati, MD[9], Vipul R. Sheth, MD, PhD[10], Ari M. Steiner, MD[11], Amita Kamath, MD[12], S. Abbas Shobeiri, MD, MBA[13], Milena M. Weinstein, MD[14], Liliana Bordeianou, MD, MPH[15], on behalf of the Members of the Expert Workgroup on Magnetic Resonance Imaging of Pelvic Floor Disorders

MRI defecography

IMPRESSION

1. [Anatomic findings]
2. [Anterior compartment findings]
3. [Middle compartment findings]
4. [Levator hiatus and anorectal junction/perineal descent findings]
5. [Posterior compartment findings]

doi.org/10.2214/AJR.21.26488 AJR 2021; 217:800–812 ISSN-L 0361–803X/21/2174–800

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MRI defecography

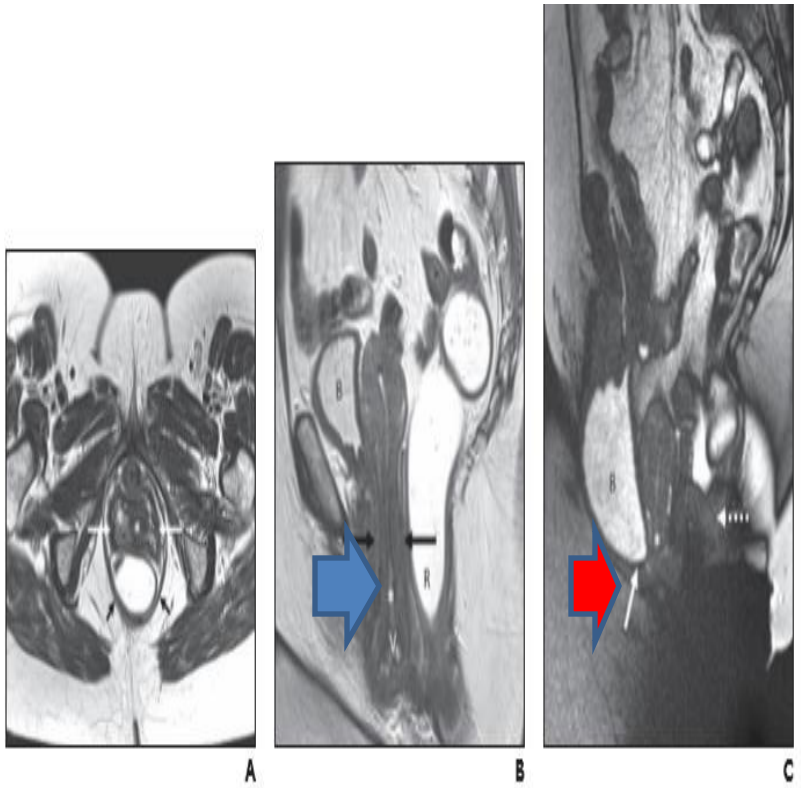
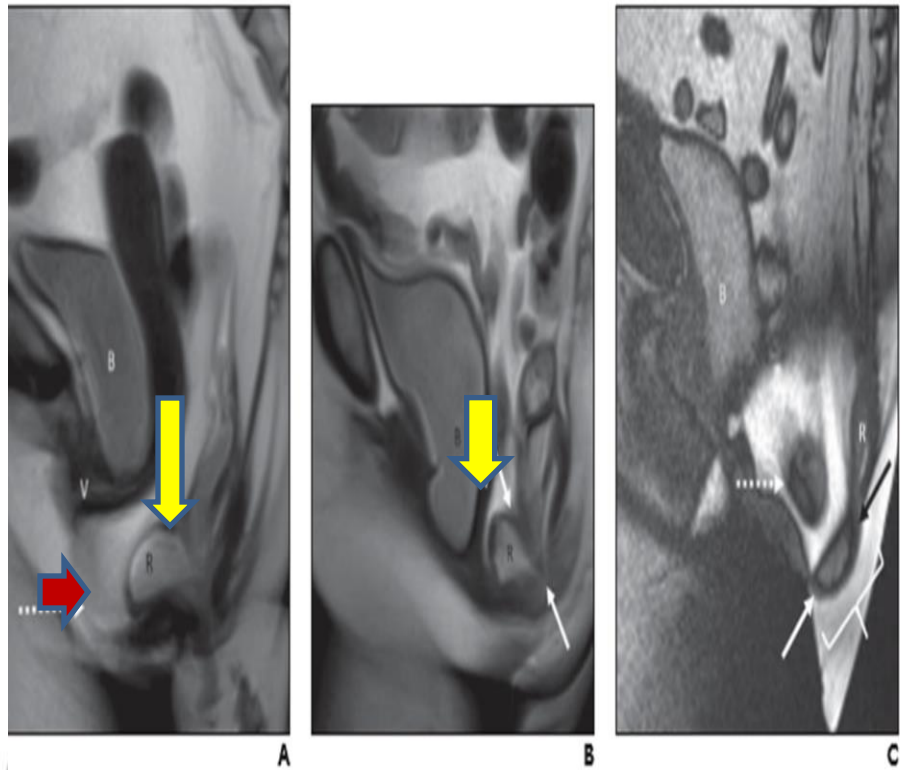


Fig. 3—64-year-old woman with history of bladder and uterine prolapse. B = bladder, R = rectum, V = vagina.
A and B, Axial (A) and sagittal (B) T2-weighted images of pelvis at rest show uterocervical prolapse. Vaginal walls are well delineated circumferentially (*long arrows*) surrounding caudally prolapsed cervix (*asterisk*). Also clearly visible are symmetric thinning and ballooning of levator ani muscles on axial image (*short arrows*, A).
C, Sagittal steady-state image during end defecation shows large cystocele (*solid arrow*), more significant uterine prolapse (*asterisk*), and rectal intussusception (*dashed arrow*).



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El Sayed R, MR Imaging PFD Current Implications and New Horizons, Radiol Clin N Am 58 (2020) 305–327 https://doi.org/10.1016/j.rcl.2019.11.007

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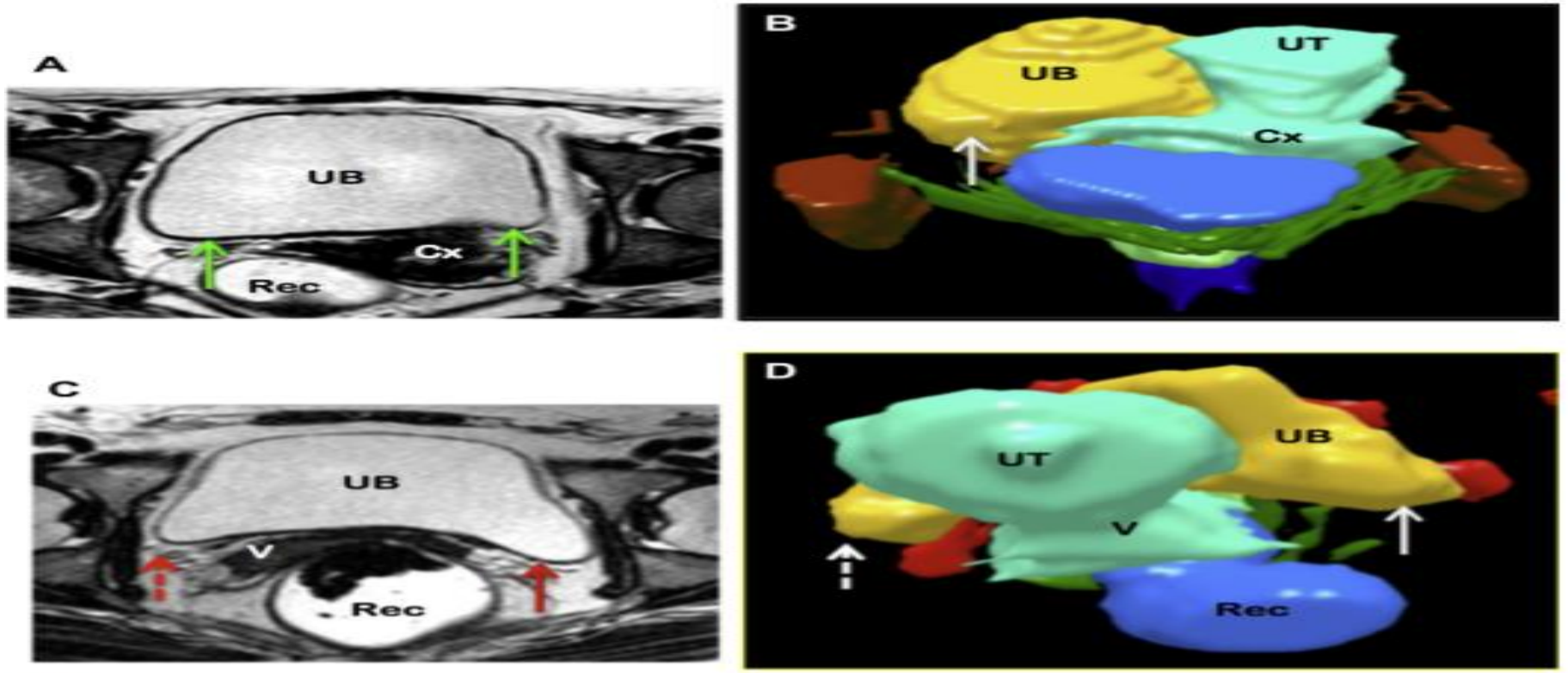
Three-dimensional Modeling MR Imaging of the Functional 3-part Pelvic Supporting Systems

El Sayed



14. 3D- Modeling of the predominant pelvic supporting system defect. (*A*) Static axial T2WI of a normal healthy unteer with no pelvic floor dysfunction shows straight posterior urinary bladder wall indicating normal level I dopelvic fascia (*green arrows*). (*B*) The corresponding 3-D reconstruction post imaging processing using manual mentation of sequential source images, shows that the intact fascia is reflected on the urinary bladder posterior ll (*white arrow*) in the 3D model same as in the 2D MR image. (*C*) Static Axial T2W MR image of female patient with P shows sagging of the posterior urinary bladder wall, to fill the gap caused by detachment of the pubocervical cia from the lateral pelvic wall (*red arrows*). (*D*) Is the corresponding 3-D modeling of the MR image effectively

El Sayed R, MR Imaging PFD Current Implications and New Horizons, Radiol Clin N Am 58 (2020) 305–327 https://doi.org/10.1016/j.rcl.2019.11.007

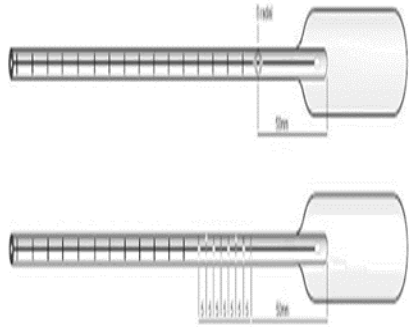
Kasr Al-Ainy Colorectal Unit

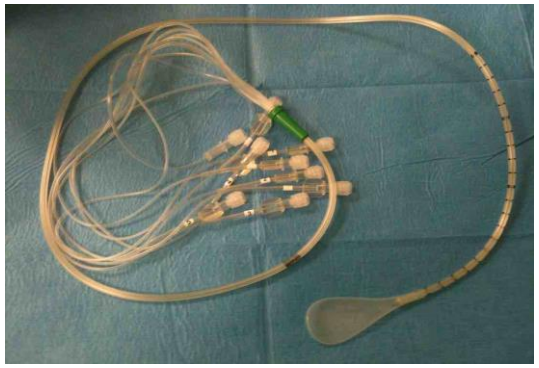
Manometry and Biofeedback device

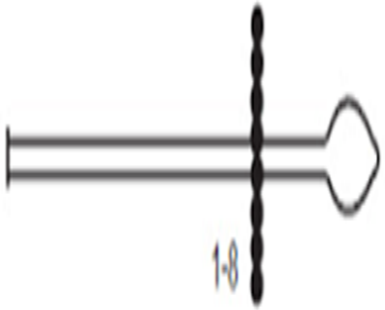
- Device used to measure anal canal pressures
- Rectal pressures
- Rectal sensations
- Rectoanal reflex
- Biofeedback therapy

Helps in diagnosis and management of patients of anal incontinence and obstructed defecation syndrome

Anorectal Manometry

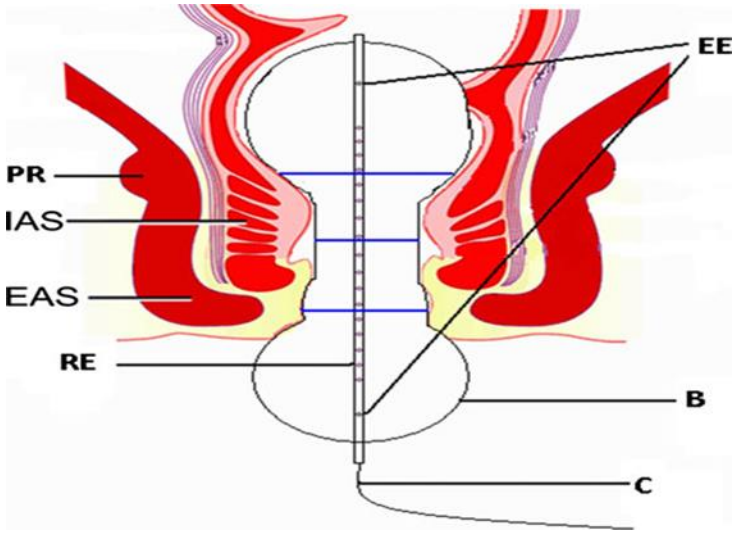




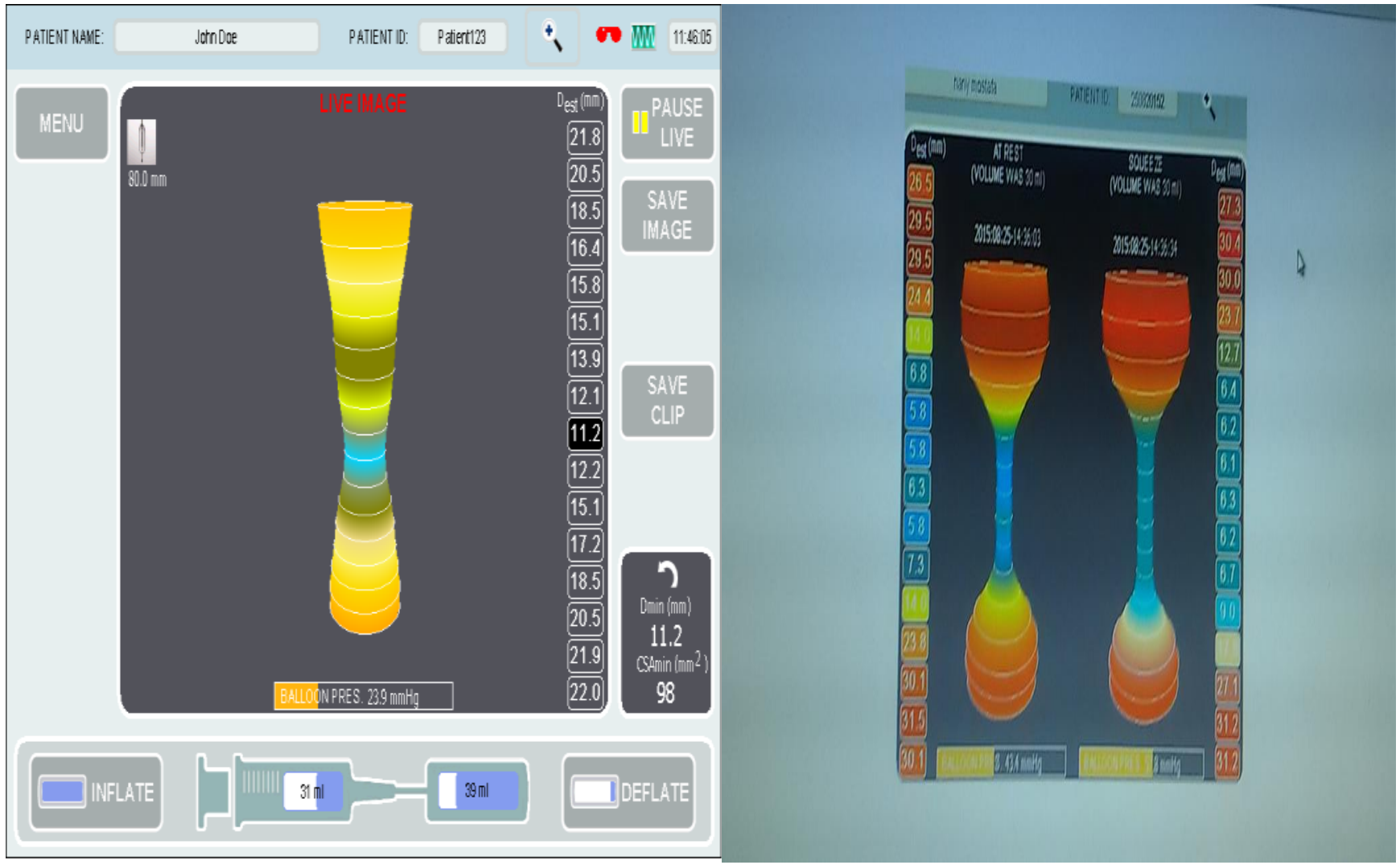


Functional Luminal Imaging Probe (FLIP)

- The EndoFLIP System is used in a clinical setting as a pressure and dimension measurement device.
- The EndoFLIP System can measure and display diameter. The system can also measure and display balloon pressure



PR puborectalis, IAS internal anal sphincter, EAS external anal sphincter, EE excitation electrodes, RE recording electrodes, B bag, C catheter.

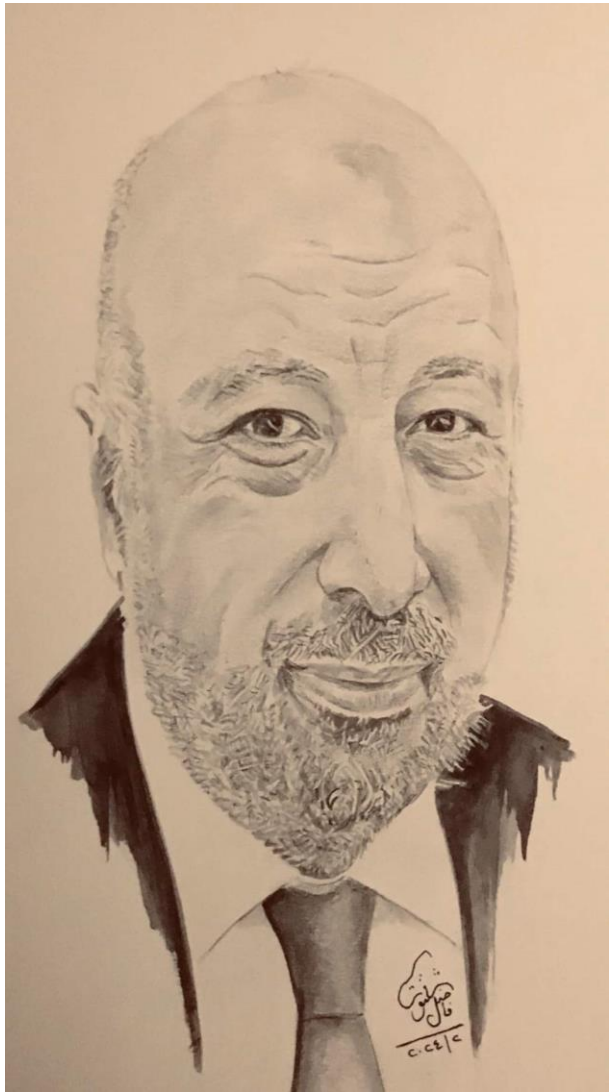

PATIENT NAME:
John Doe
PATIENT ID:
Patient123
11:46:05
MENU
LIVE IMAGE
Dest (mm)
80.0 mm
21.8
20.5
18.5
16.4
15.8
15.1
13.9
12.1
11.2
12.2
15.1
17.2
18.5
20.5
21.9
22.0
BALLOON PRES. 23.9 mmHg
PAUSE LIVE
SAVE IMAGE
SAVE CLIP
Dmin (mm)
11.2
CSAmin (mm2)
98
INFLATE
31 ml
39 ml
DEFLATE
AT REST
(VOLUME WAS 30 ml)
SQUEEZE
(VOLUME WAS 30 ml)
2015:08:25-14:36:03
2015:08:25-14:36:34

Management of obstructed defecation syndrome

Treatment of outlet obstruction is often disappointing, and many authors reported non encouraging results after surgery.

I Totally Disagree.

PROF: Ahmed Farag



Management of obstructed defecation syndrome

- *As a consequence, an initial conservative approach has been encouraged: high-fiber diet, biofeedback, and rehabilitation of the pelvic floor muscles can help to reduce symptoms of outlet obstruction.*

Management of obstructed defecation syndrome

- When it has been demonstrated that the predominant alteration is the rectocele, repair of the anterior rectal wall through the different approaches described (transvaginal, perineal, or transanal) should be performed.
- The simplest operation is the transanal suture of the anterior rectal wall, with satisfactory results in more than 80% of patients.
- rectocele and rectal occult mucosal prolapse may be also resected with a GIA stapler (STARR or TRANS-STAR procedures) with satisfactory short-term results.
- Alternative approaches are represented by discrete fascia repair or mesh (biologic or synthetic) positioning

Management of obstructed defecation syndrome

- Rectal prolapse surgery can be performed by a perineal, abdominal or laparoscopic approach.

- Nevertheless, recurrence rates up to 58% and persistent bowel dysfunction are commonly reported.
- The perineal approaches (Delorme or Altemeir) are reserved for elderly patients with significant comorbidity.
- The abdominal approach is considered to be the choice for patients in good health condition.

Management of obstructed defecation syndrome

The decision on whether or not to perform sigmoid resection is based on bowel function and sphincter muscle status (MANOMETRY AND TRANSIT TIME)

If the patient has normal bowel function or constipation associated with normal anal tone, a resection is preferred.

Whenever diarrhea or sphincter damage is suspected, the maintenance of the sigmoid colon (suture rectopexy; Ripstein technique – anterior sling rectopexy; Wells technique – posterior mesh rectopexy) seems to be correlated with better functional results.

Management of Anismus

- Biofeedback.
- Botox injection.
- Obturator internus muscle

The Forgotten Partener in ODS

- ***Rectal Inertia.***

•Rectal Inertia.

•IRP

- Normal = > or 50 mmHg.
- Mild RI = 40 -50 mmHg.
- Moderate RI = 30 – 40 mmHg.
- Severe RI = 20 – 30 mmHg.
- Rectal Atony = < 20 mmHg.

All pressures measured as mean IRP during defecation in 3 occasions with abdominal straining, without abdominal straining and urge extreme urge.

The Management of Rectal Inertia

- Prokinetics.
- Pharmaco-behavioural treatment.
- STARR and trans-STARR procedure.
- Rectal excision and replacement with a Colonic pouch (J-pouch, Coloplasty or Teniectomy pouch.)

Review Of The Treatment Options For POP

- There is no solid consensus about which surgical approach is superior.
- Anatomical failure rate can be as high as 25%.
- 13% will require a redo operation in 5 years, and 30% in their lifetime.
- A multidisciplinary approach allows proper preoperative assessment of all the three compartments.
- A multidisciplinary surgical approach may improve surgical outcomes, patient satisfaction and cost.

S. R. Steele et al. (eds.), The ASCRS Textbook of Colon and Rectal Surgery, Springer Nature Switzerland AG 2022 https://doi.org/10.1007/978-3-030-66049-9_1

Multidisciplinary Approach to the Treatment of Concomitant Rectal and Vaginal Prolapse

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Clin Colon Rectal Surg 2016;29:101–105.

Abstract

Rectal prolapse and vaginal prolapse have traditionally been treated as separate entities despite sharing a common pathophysiology. This compartmentalized approach often leads to frustration and suboptimal outcomes. In recent years, there has been a shift to a more patient-centered, multidisciplinary approach. Procedures to repair pelvic organ prolapse are divided into three categories: abdominal, perineal, and a combination of both. Most commonly, a combined minimally invasive abdominal sacral colpopexy and ventral rectopexy is performed to treat concomitant rectal and vaginal prolapse. Combining the two procedures adds little operative time and offers complete pelvic floor repair. The choice of minimally invasive abdominal prolapse repair versus perineal repair depends on the patient's comorbidities, previous surgeries, preference to avoid mesh, and physician's expertise. Surgeons should at least be able to identify these patients and provide the appropriate treatment or refer them to specialized centers.

Keywords

- sacral colpopexy
- rectopexy
- pelvic organ prolapse

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https://doi.org/10.1007/s00384-018-3149-9

SHORT COMMUNICATION

Complex pelvic organ prolapse: decision-making algorithm

Gabriele Naldini[1] · Bernardina Fabiani[1] · Alessandro Sturiale[1] · Tommaso Simoncini[2]

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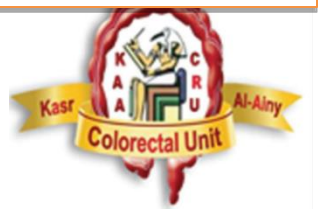
Abstract

Purpose The pelvic floor is considered as a single anatomical and functional unit, consisting of several structures that suspend the pelvic organs maintaining their function. For this reason, a multi-compartmental prolapse is a common disease that needs a multidisciplinary pelvic floor team in order to be treated. The aim of the authors is to suggest a treatment algorithm to better approach complex pelvic organ prolapse.



Treatment Approaches for Anterior and Middle Compartment Prolapse

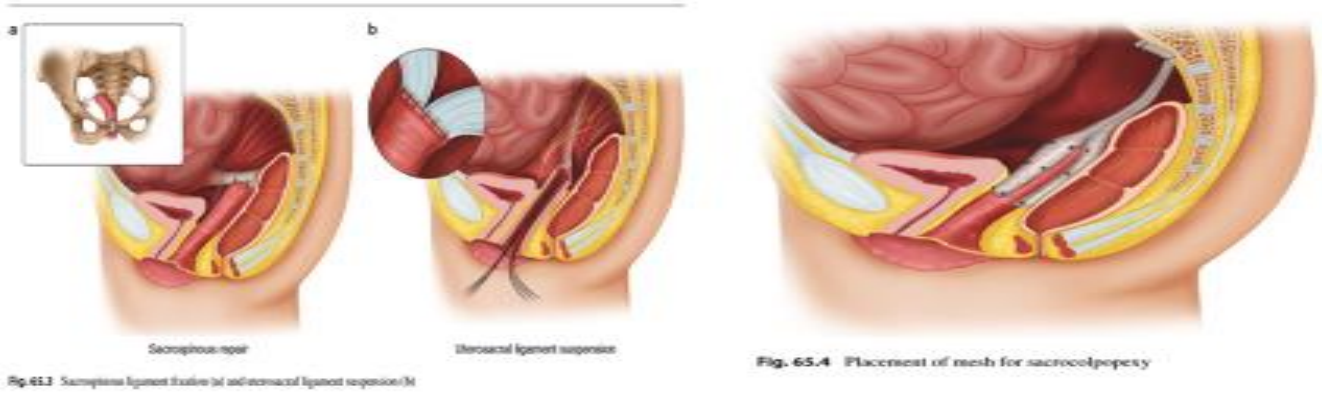
- Asymptomatic patients should be reassured.
- Many symptoms can be managed initially with lifestyle modifications and Pelvic floor exercise.
- Non-operative options for symptomatic patients are limited.
- Surgery is indicated in stage II–IV symptomatic patients.
- The goal of any operation is to restore normal anatomy and improve function.

(D. Patterson et al.,Middle and Anterior Pelvic Compartment: Issues for the Colorectal SurgeonThe ASCRS Textbook of Colon and Rectal Surgery, Springer Nature Switzerland AG 2022 https://doi.org/10.1007/978-3-030-66049-9_1)

Operative Approaches for Anterior and Middle Compartment Prolapse

- Surgery may be abdominal, perineal, or both.
- Type surgery is based on the extent of prolapse, prior surgeries, comorbidities, and surgeon's training.
- Surgery is whether an obliterative or reconstructive.

Reconstructive Surgery.



(D. Patterson et al.,Middle and Anterior Pelvic Compartment: Issues for the Colorectal SurgeonThe ASCRS Textbook of Colon and Rectal Surgery, Springer Nature Switzerland AG 2022 https://doi.org/10.1007/978-3-030-66049-9_1)

Treatment Approaches for posterior Compartment Prolapse (Rectal Prolapse)

- Rectal prolapse aggravates surgeons because of the proliferation of operative techniques that can be used for treatment.
- Treatment is nearly always surgical with over 100 procedures reported to treat rectal prolapse.

(Catanzarite Tatiana T. Recurrence of rectal prolapse after surgical repair in women with pelvic organ prolapse. Dis Colon Rectum. 2018;61(7):861–7.)

Surgical treatment

- Prolapse repair may be:
    1. perineal
    2. abdominal
- The abdominal approach may be :
    1. open
    2. laparoscopic
    3. SILS
    4. Robotic

World J Surg
https://doi.org/10.1007/s00268-020-05585-0

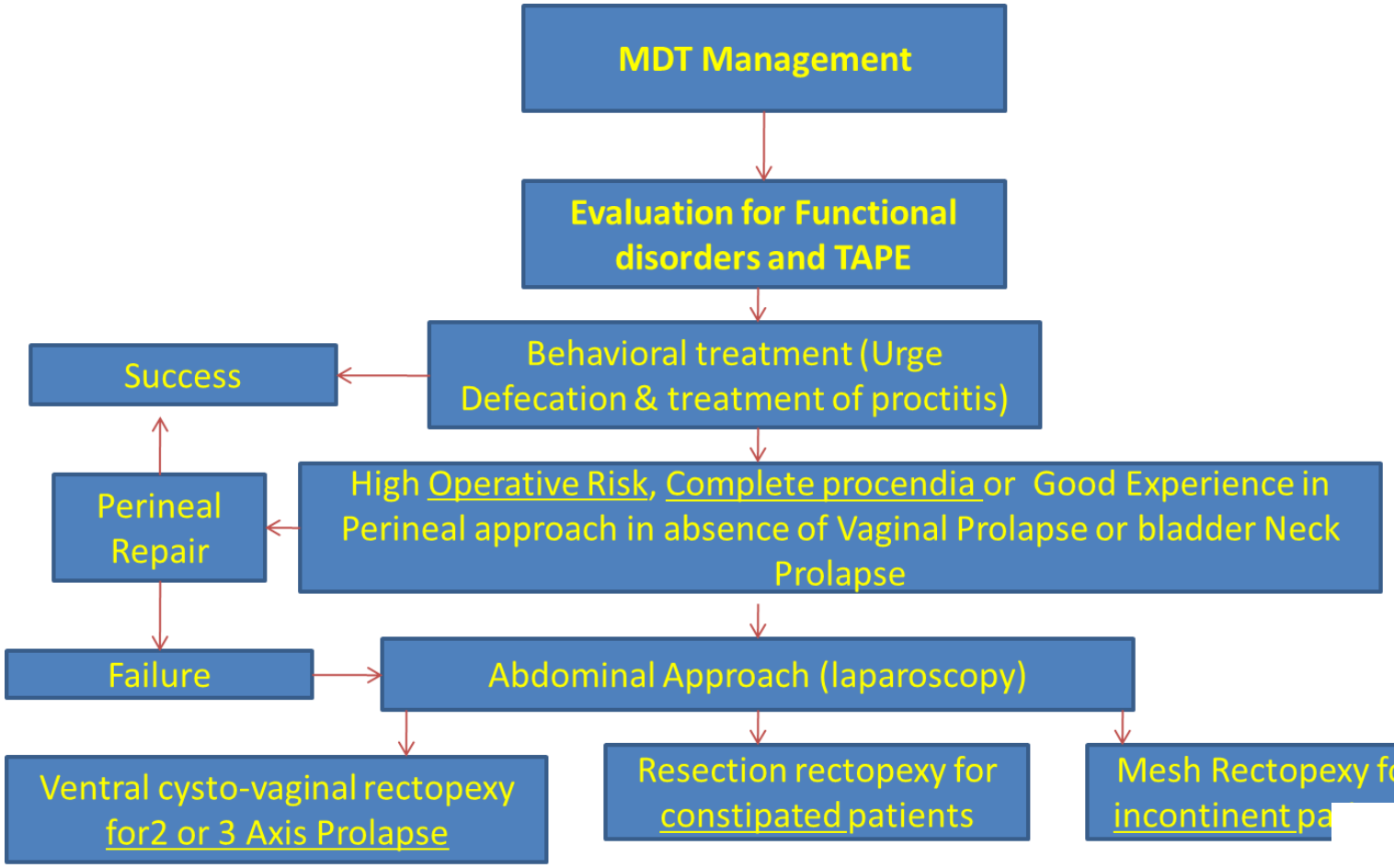
ORIGINAL SCIENTIFIC REPORT

Laparoscopic Pelvic Organ Prolapse Suspension (Pops) Versus Laparoscopic Ventral Mesh Rectopexy for Treatment of Rectal Prolapse: Prospective Cohort Study

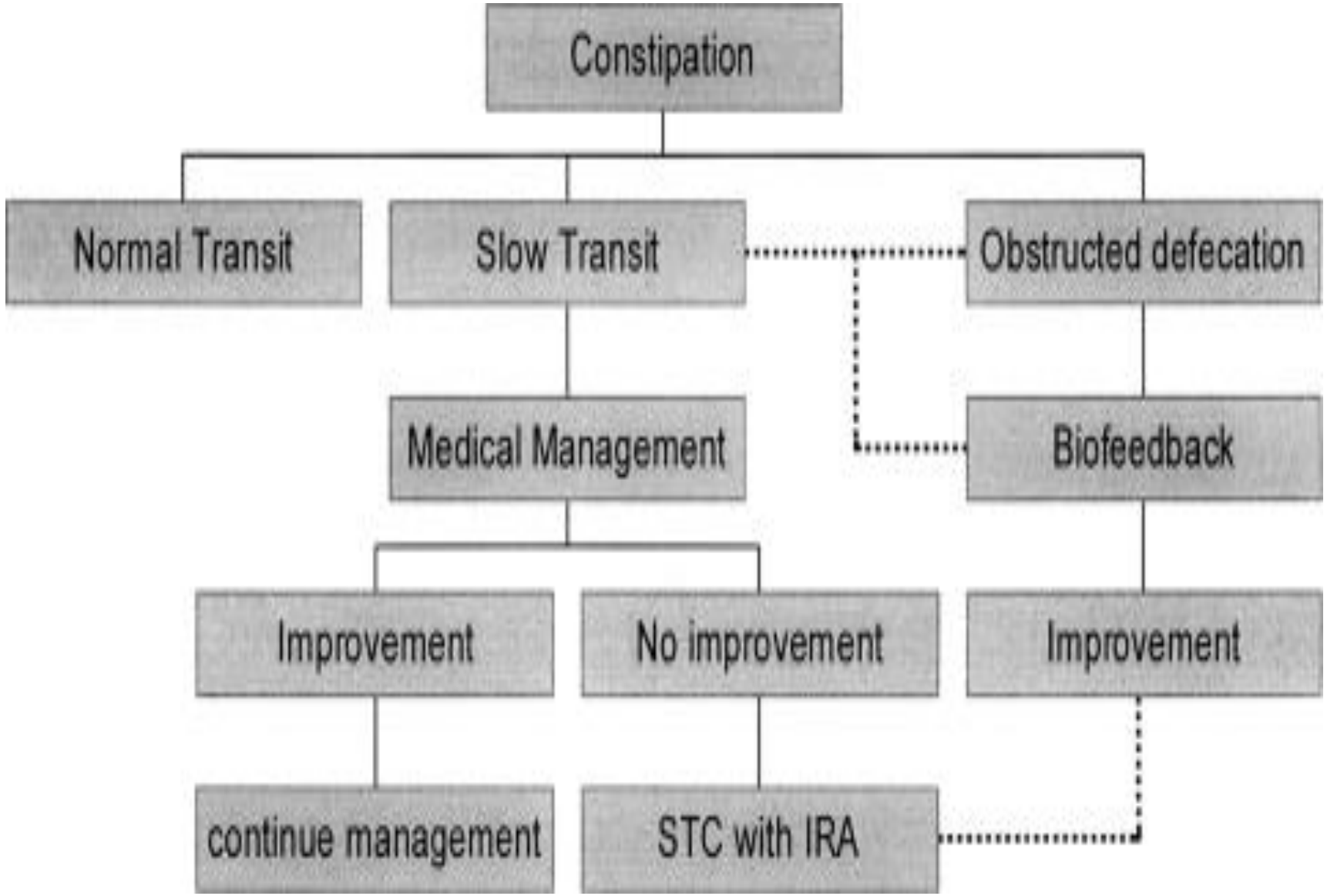
Ahmed Farag[1] · Abdrabou N. Mashhour[1] · Mohamed Raslan[1] · Mohamed Tamer[1] · Mohamed Yehia Elbarmelgi[1]

Pelvic organ prolapse suspension (POPS) surgery is a recent surgical procedure for one-stage treatment of multi-compartmental female pelvic prolapse. The technique is much easier than traditional treatments with significant improvement of the preoperative symptomatology [3].

Pelvic Organ Prolapse (Evaluating the many Choices)



Cariou de Vergiea,b,1, A. Venarac,1, E. Duchalaisa,E. Frampasd, P.A. Lehura Internal rectal prolapse: Definition,assessment and management in 2016. J Visc Surg. 2016:16.30165-5)


Constipation
Normal Transit
Slow Transit
Obstructed defecation
Medical Management
Biofeedback
Improvement
No improvement
Improvement
continue management
STC with IRA

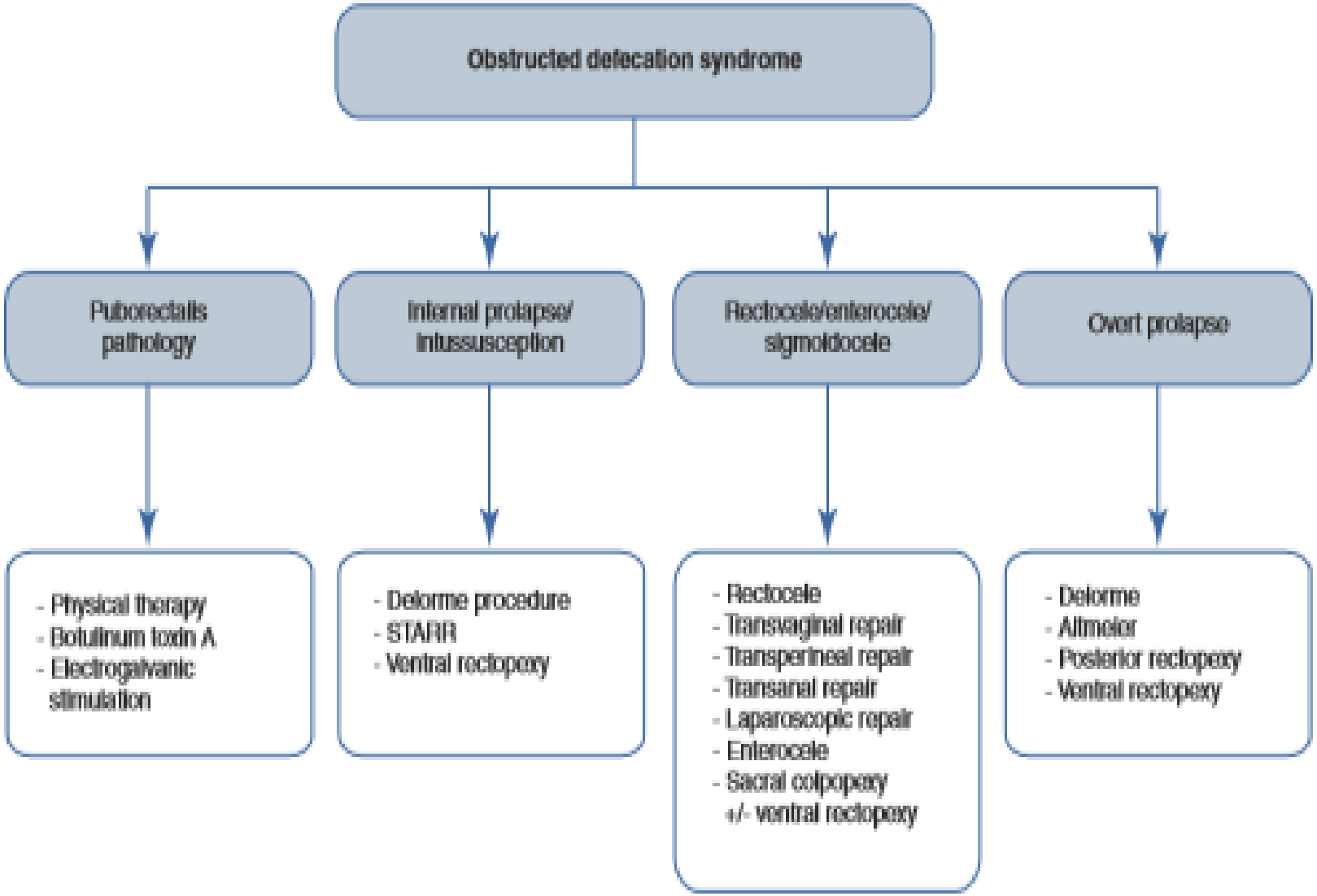


Fig. 59.8 Treatment algorithm for patients with obstructed defecation

CONCLUSION

- Obstructed defecation syndrome is a subtype of constipation
- where in patients usually complain of straining; incomplete, unsuccessful, or painful evacuation; bowel infrequency; abdominal pain and bloating; and the possible need for digitation.
- Initial management is lifestyle advice, laxatives, and bowel retraining programs, including biofeedback and psychological support.
- Diagnostic testing may point to a diagnosis, but clinical correlation should always be used.

CONCLUSION

- Dyssynergic defecation is a clinical diagnosis and requires knowledge of anatomy and physiology for management.
- Patients with overt rectal or anterior compartment prolapse and symptoms of obstructed defecation should be managed surgically.
- Rectoceles, when symptomatic, require a surgical option.
- Enteroceles and sigmoidoceles need a multimodal approach for effective symptom relief.

Conclusion

There are multiple procedures and approaches for surgical treatment of POP, the choice between them is regulated by multiple factors.

Key Concepts

- The pelvis is divided into three compartments which are intertwined.
- Multi-compartmental disease is more common.
- Considering surgical intervention, looking at the pelvis as one unit.
- A multidisciplinary approach is recommended.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Thank you