

Evaluation of Obstructed Defaecation Syndrome.

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Abstract: Constipation is a common clinical condition and millions of people suffer with this condition. There are a number of causes for constipation but a common and previously poorly understood cause is Obstructed Defaecation Syndrome (ODS). ODS is commoner in women and encompasses a number of symptoms and signs. It is characterised by a normal urge to defaecate but an impaired ability to expel the faecal bolus. Evaluation of ODS includes careful history taking, using a proforma and constipation and incontinence scoring sheets, digital rectal examination and proctoscopy, colonoscopy, defaecating proctogram, Anorectal manometry and endoanal ultrasound.^{1,2}

INTRODUCTION

Constipation is a common clinical condition and millions of people suffer with this condition. There are a number of causes for constipation but a common and previously poorly understood cause is Obstructed Defaecation Syndrome (ODS). ODS is commoner in women and encompasses a number of symptoms and signs. It is characterised by a normal urge to defaecate but an impaired ability to expel the faecal bolus. The symptom complex includes several unsuccessful attempts at defaecation, straining, rectal bleeding, digitation to aid evacuation, laxatives/enema use, perineal and lower abdominal discomfort.

There is often a rectal mucosal prolapse/rectal intussusception and a rectocele. Other associated conditions include urogenital prolapse, enterocele, sigmoidocele and anismus. Conservative treatment such as diet, exercise and biofeedback and Surgery (Stapled transanal rectal resection) improves symptoms in the majority of patients with obstructed defaecation.

EVALUATION IN A PATIENT WITH ODS

A careful history needs to be taken, preferably using a proforma and constipation and incontinence scoring sheets (Wexner and Longo scores).

LONGO'S ODS SCORE SYSTEM

ODS score (0-45)								
Defaecation frequency	1-2 def/3-4 d	0	1 def/week or 3 def in 2 weeks	1	1 def/week or 3 def in 2 weeks or 4 def in 3 weeks	2	1 def/week or 3 def in 2 weeks or 4 def in 3 weeks or 5 def in 4 weeks	3
Straining	No, light	0	Moderate	1	Severe	2	Very severe	3
Effort	None	0	Some	1	Excessive	2	Very excessive	3
Duration of defaecation	< 10 min	0	> 10 min	1	> 20 min	2	> 30 min	3
Time/pressure per defaecation	< 10 min	0	> 10 min	1	> 20 min	2	> 30 min	3
Activity reduction per week	< 25% of activity	0	25-50% of activity	1	50-75% of activity	2	> 75% of activity	3
Laxatives	< 25% of def	0	25-50% of def	1	> 50% of def	2	Always	3
Enemas	0	0	1	2	3	4	5	6
Digitation	0	0	1	2	3	4	5	6

Examination should include digital rectal examination and proctoscopy (with patient in lithotomy and left lateral position, at rest and while straining). This will usually identify rectoceles, sphincter defects/weakness, abnormal perineal descent, internal mucosal prolapse and complete rectal prolapse.

Investigations include colonoscopy to ensure that there is no associated colorectal abnormality, rule out solitary rectal ulcer which is associated with obstructed defaecation. A defaecating proctogram is mandatory and provides static and dynamic information on defaecatory function and is invaluable in decision making before recommending the STARR procedure. It is also known as

defaecography or evacuation scintigraphy and can be performed in conjunction with standard barium enema. Barium thickened to the consistency of stool is used for structural and functional evaluation of anorectal region.

Dynamic magnetic resonance imaging (MR defaecography) has also been used with similar diagnostic capabilities and gives a better anatomical and functional delineation. But since it is done in supine position, results may not mirror the defaecatory physiology. However concomitant descent of bladder and vagina can be evaluated.

Anorectal manometry and endoanal ultrasound are not mandatory in all patients but are indicated in patients with symptoms and examination suggestion of incontinence, abnormal rectal capacity or compliance. Slow transit is another major cause of constipation and may need to be excluded in some cases with colonic transit studies. Pudendal nerve terminal motor latency: Pudendal nerve latency time offers the opportunity to evaluate nerve damage to the pelvic floor. It measures the time from an electrical stimulus of the pudendal nerve to the onset of the electrical response in the muscles of the pelvic floor. An easy, painless way of performing this test is with the use of the finger electrode. This electrode is mounted on a glove and contains an electrode at the end of the finger that can be placed intrarectally on the pudendal nerve. A second electrode is located at the base of the finger and registers the anal response. A prolonged latency is taken as evidence of neuropathy.

EMG: It is helpful in diagnosing anismus. The diagnosis is done using anorectal physiology testing when electromyography [EMG] of the puborectalis & external sphincter reveals the failure of relaxation or paradoxical contractions.

DEFAECATION PROCTOGRAPHY (DEFAECOGRAM)

The rectum is emptied by administration of glycerin suppositories or an enema. Approximately two hours before the examination 300 ml of diluted barium suspension at 60% is given orally to opacify the small bowel. Patients are asked to empty the bladder. Later the rectum is filled with 200 ml of thick barium sulphate paste injected with a syringe with the patient in the left lateral position. Test is divided in three steps: pre-evacuation, evacuation and post-evacuation. The patient is seated on a commode. With the patient seated on the commode, lateral radiographs are taken during rest and squeezing as a point of reference to locate bone landmarks and to assess the degree of filling of pelvic ileum. A left lateral view of the pelvis is recorded

during the evacuation.^{3,4,5}

Another application of this technique is the measurement of the anorectal angle. It is generally accepted that this angle, which depends on the tone of the puborectalis muscle, becomes more obtuse during attempted evacuation due to relaxation of the pelvic floor.^{6,7} Failure to increase the anorectal angle on straining, sometimes associated with accentuation of the puborectalis impression, is considered a radiologic sign of anismus. In patients with fecal incontinence the anorectal angle is widened even at rest. It has been argued, however, that visual assessment of the anorectal angle is rather subjective and, therefore, unreliable.⁷

Defecography also enables the determination of the position of the pelvic floor by calculating the distance between the anorectal junction and the pubococcygeal line. Demonstrating a drop in the anorectal junction of several centimeters or more below the pubococcygeal line signifies the pathologic descent of the pelvic floor. Evacuation proctography also provides a valid estimate of the rate and degree of rectal emptying.

A rectocele is diagnosed when the anterior rectal and posterior vaginal wall herniates into the lumen of the vagina; its depth was assessed by the length of the segment drawn from this axis to the maximum anterior convexity point of the rectocele. It is graded as follows:

Grades Rectocele	Small <2 cms	Moderate 2-4 cms	Severe >4 cms
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Pelvic floor descent is defined as the drop of the ano-rectal junction during straining more than 3.5 cm from its resting position at the inferior plane of the ischial tuberosities. Anismus is diagnosed as a persistent or excessive indentation of the puborectalis sling posteriorly on the rectum at or just above the anorectal junction without an appropriate widening of ARA.



Figure 1 : Indigenously designed commode for Defaecography



Normal Defaecography

Enterocolocele

Figure 2 : Defaecograms : Normal and Enterocolocele



Rectocele

Abnormal rectal descent

Figure 3 : Defaecograms : Rectocele and abnormal rectal descent

ANORECTAL MANOMETRY

Anorectal manometry is not a single test but consists of a series of measurements that include an assessment of anal sphincter function, rectal sensation, recto-anal reflexes, and rectal compliance. Anal canal pressures can be measured by four different ways: water-filled perfusion catheters, water- or air-filled balloons, sleeve catheters and pressure microtransducers. Manometry can be performed with the stationary technique, the manual or stationary pull-through technique, or the continuous pull-through technique. In the manual pull-through technique, the catheter tip is initially positioned 6 cm from the anal verge into the rectum and the rectal pressure is recorded. Then the catheter is slowly withdrawn with a pull-through maneuver until a rise in intraluminal pressure is observed. Afterwards, the catheter is gradually withdrawn at intervals of 1 cm and the resting pressure is recorded. At each level, the patient is asked to squeeze the sphincter muscles and subsequently to strain to simulate evacuations while pressures are again recorded. The integrity of the recto-anal reflex can be assessed at the time of measuring anal pressures during incremental inflation of a rectal balloon, which is attached to the catheter probe. Simultaneously, rectal sensation can be tested by balloon distension of the rectum. The balloon can be distended either by air or water. Three measurements are taken. The rectal sensory threshold corresponds to the minimum volume felt in the rectum, the sensation of rectal fullness with a constant desire to defecate, and the maximum tolerated volume causing unbearable discomfort. Measuring these volumes also permits a gross determination of rectal compliance.

In constipated patients, manometry helps to detect motor and sensory abnormalities of the anorectum during attempted defecation. Three types of anorectal motor dysfunction can be recognized: impaired anal relaxation (anal resting pressure not changed), paradoxical anal contraction (anal resting pressure paradoxically increases), or both. Rectal sensory dysfunction may also be present. The threshold for first sensation and the threshold for a desire to defecate may be higher in constipation of obstructed defecation.⁸⁻¹⁰ This disorder may be associated with increased rectal compliance.

CONCLUSION

Validation of scoring systems and quantitative tests is still needed. More uniform and strict criteria for anismus should be applied to make therapeutic approaches comparable. Appropriate selection of patients for surgery is the key to success.

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