



## **OBSTRUCTED DEFECATION**

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### **What is obstructed defecation?**

Obstructed defecation is impaired defecation: a subjective sensation of anal blockage combined with incomplete evacuation, too much straining, manual maneuvers to facilitate defecation<sup>1</sup>. These symptoms, sometimes associated with fewer than three defecations per week, must occur for the last three months during at least 25% of defecations to be considered significant. However, all of them are aspecific because they are present in many diseases: chronic constipation, irritable bowel syndrome and as well as several functional and organic anorectal pathologies may involve these symptoms. Special care must be taken when obstructed defecation is combined with blood-stained stool and abdominal pain which is not relieved by defecation; in these cases a colo-proctologic evaluation is mandatory in order to exclude organic diseases such as colon or rectal cancer.

### **Which causes?**

Obstructed defecation may be due to functional and organic diseases.

Functional diseases. Defecation is the result of a complex coordination among colonic movements, which transfer stool to rectum, anorectal activity, which stores and excretes stools, and pelvi-perineal striated muscles, which contract and/or relax to make rectal propulsion and anal transit easier. When striated muscles (levator ani, particularly the puborectalis muscle) lose coordination among themselves or with the rectum and anus, producing a paradoxical contraction instead of relaxing, they compress the anal canal with an objective obstacle to stool transit. This condition is named *pelvic floor dyssynergia*<sup>2</sup>.

Organic diseases. Many benign or malignant diseases that involve the rectum and/or anus may mechanically interfere with stool transit. Obstructed defecation is the result of an organic distortion that concretely impairs the visceral lumen, thus blocking the transit. In addition to rectal and anal neoplasias and other diseases such as anal stenosis, hemorrhoidal prolapse and anal fissure, there is a group of rectal diseases that may be considered the temporal evolution of pelvic floor dyssynergia. *Rectocele, rectal intussusception, mucosal rectal prolapse, solitary ulcer syndrome, and descending perineum syndrome* are all linked to a dyssynergic defecation that, as the years go by and in the presence of some specific etiologic factors, causes an anatomical derangement of the rectal wall. For example, the recto-vaginal septum is broken in the rectocele and becomes the *locus minoris resistentiae* of the rectal wall where obstructed defecation causes protrusion of the anterior rectal wall into the posterior vaginal wall. The rectal herniation holds a small amount of stool that is trapped and is not excreted giving rise to incomplete evacuation, vaginal weight sensation, and digital maneuvers to evacuate the rectum.

### **How to diagnose?**

Obstructed defecation must be evaluated by a coloproctologist who identifies the cause and suggests the correct treatment. In addition to anorectal inspection, that includes a preliminary endoscopic evaluation in order to exclude neoplastic diseases, the diagnosis requires morphological and functional instrumental tests.

Morphological instrumental tests. These tests are indispensable for the identification of the anatomical anorectal lesions that may be found in patients affected by obstructed defecation. Defecography (including colpo-cysto-defecography and MRI-defecography) and perineal ultrasound are the main tests. Defecography assesses the defecatory dynamics of the rectum and

anal canal at rest, during sphincteric contraction, at straining, during stool evacuation. MRI-defecography shows images where are reproduced both pelvic viscera (urethra-bladder, uterus-vagina, rectum-anus) and muscular-banding layers. In this way it is possible to diagnose both organic lesions of pelvic viscera and functional impairment of pelviperineal muscles. Perineal ultrasound, less expensive than other radiological tests, is performed according to the same sequence of defecographic images but offers an accurate evaluation of pelvic organ prolapses and muscular-banding defects. These last data are useful suggestions for the operative surgical techniques which are aimed at correction of frame pelvic support lesions.

Functional instrumental tests. These tests assess pathophysiological functional mechanisms that may be responsible for obstructed defecation. Anorectal manometry and anal neurophysiological tests are the main diagnostic instruments. Anorectal manometry evaluates the motor-sensitive function of the anorectum and may identify functional impairments of anal sphincters, rectal sensation and rectal compliance<sup>3</sup>. Its data are used not only for diagnostic purposes but also they give determinant indications for rehabilitative treatment of obstructed defecation. Multimodal rehabilitation is guided by manometric data that suggest the use of specific rehabilitative techniques. Neurophysiological tests (sphincteric EMG, bulbocavernosus reflex latency, sensory and motor evoked potentials) are used when there is neurological disease or suspected pudendal neuropathy<sup>4</sup>.

### **Which therapy?**

As a general rule, after the failure of medical treatment (high fiber diet, laxatives, prokinetic drugs), rehabilitative treatment is the first step in obstructed defecation therapy. Surgery may be reserved only for non-responders to rehabilitation and/or patients with large organic lesions.

Rehabilitation. Rehabilitation is performed in a outpatient' department by qualified nurses and physiotherapists, or in a home environment. The aim of rehabilitative techniques is to restore the defecatory coordination between pelviperineal muscles, anal sphincters and the sensory-motor activity of the rectum. The rehabilitative techniques are: 1) pelviperineal kinesitherapy; 2) biofeedback; 3) volumetric rehabilitation (sensory retraining); 4) anal electrostimulation. Each technique, in agreement with the principles of *multimodal rehabilitation*<sup>1</sup>, is adopted as suggested by anorectal manometry. Results are good: 77% of patients feel better and 20% become asymptomatic. The success rate decreases to about 50% when there are significant organic diseases (rectoanal intussusception, rectocele diameter > 3 cm). The non-responders to rehabilitation, at this point, should be next in line for more expensive and invasive therapeutic procedures (sacral neuromodulation, surgery).

Surgery. There is not surgical technique that may be considered the gold standard for surgery in patients affected by obstructed defecation. Each organic disease has specific anatomical derangements that should be corrected by surgery. This is the reason for the existence of many surgical techniques: each of them removes specific organic distortions of the rectum and anus. The surgical operations may be classified according to the topographical approach: trans-vaginal, trans-anal and abdominal. The trans-vaginal techniques, favoured by gynecologists, reconstruct muscular and banding defects by using biological prostheses. The trans-anal techniques (STARR, Delorme operation) remove organic rectal diseases. The abdominal techniques, particularly by laparoscopic approach, rebuild the pelvic anatomical plains by using prostheses: pelvic viscera are located in the right position thanks to the rebuilding of the frame support. In any case, the complexity of the surgical option suggests in itself the need for a dedicated coloproctological unit and experienced personnel.



### ***Bibliography:***

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