Obstructed defecation (OD) syndrome is associated with several abnormalities of the pelvic organs, namely anterior rectal mucosa prolapse, anterior rectocèle, recto-anal intussusception, and a deep Douglas pouch which predisposes to enterocele or rectocele. Surgical repair of the anatomical deformities should be attempted, only after thorough selection of patients and conservative treatment has been exhausted. Transperineal procedures include resection-plication of the anterior rectal wall and stapled transanal rectal resection, and are indicated for the treatment of anterior rectocele and internal rectal prolapse. Functional results are satisfactory in approximately 75 percent of the cases. Transabdominal procedures include posterior prosthesis rectopexy, resection suture-rectopexy and ventral prosthesis colpoprectopexy. These procedures are indicated in patients with large rectocele and rectal intussusception and enterocele or sigmoidocele. The rate of repair of anatomical deformities is very high and improvement of symptoms is accounted in more than 80 percent of the cases. Ventral prosthesis colpoprectopexy seems a very promising approach, but further evidence is mandatory.

Key words: rectal prolapse, rectocèle, enterocele, anorectal intussusception

INTRODUCTION

OD syndrome is characterized by excessive straining during the defecation process and manifested with excessive straining during defecation, feeling of incomplete emptying of the rectum, tenesmus, perineal discomfort or pain, finger-assisted evacuation of the rectum, mucus discharge, and even fecal incontinence. There are several anatomical abnormalities associating OD, which could be considered as etiological factors of the syndrome, and include anterior rectal mucosa prolapse, rectocele, sigmoidocele or enterocele, internal prolapse of the rectum or rectoanal intussusception and even overt rectal prolapse. However some of these deformities could be considered as normal anatomical variations of the defecatory process. In addition, symptoms of OD could be present without any apparent anatomical abnormality in the frame of the functional disorder so called “pelvic floor dyssynergy - dyssynergy of defecation). In that case, the treatment is conservative by means biofeedback training or sacral nerve stimulation.

It is very common in clinical practice that complaints and symptoms of OD do not obviously correspond to the anatomical deformities, detected either by clinical examination or by imaging modalities. In that case, proactive association of irrelevant or minimal symptoms to obvious anatomical deformities may lead to application of therapeutic modalities, which could result to poor functional outcomes. In other words, surgical correction of an anatomical anorectal deformity does not necessary translates to symptomatic alleviation and satisfactory functional results.

SURGICAL INTERVENTIONS

Several surgical methods and techniques have been designed to correct anatomical deformities associated with OD syndrome, aiming to improve the defecation process (Table 1). Some of these procedures address one individual deformity, while other surgical methods aim to correct most of the anatomical abnormalities accounted at defecography of the individual patient. Selection criteria for surgical treatment of OD syndrome include failure of conservative treatment (dietary measures, biofeedback, rectal wash-out), presence of symptoms for more than 12 months, finger-assisted defecation, large anterior rectocele (>4cm) entrapping feces at defecation, incomplete emptying or failed attempt to empty the rectum at defecography,
excessive perineal descent, and sigmoidocele or enterocele usually after hysterectomy. Transanal procedures are performed by the standard manual mode or with the use of specific disposal devices. Nowadays, all transabdominal procedures are performed by the laparoscopy, with similar functional results and superior postoperative outcomes to the open approach.

**FUNCTIONAL RESULTS**

There is no historical surgical method whatsoever which could be considered as the "gold standard", so to assess the new techniques that have been implemented from the early 2000. Optimal functional results are obtained whenever anatomical abnormalities are adequately documented, and there is a substantial association of OD symptoms to these abnormalities. Overestimation or underestimation of the clinical significance of an anatomical deformity is a reason of functional failure.

Transanal Resection of Prolapsing Anterior Rectal Mucosa improves OD symptoms in almost 80 percent of the cases, provided that co-existing anterior rectocele is small in size and no other major anatomical abnormalities, such as excessive anterior rectocele, recto-anal intussusception, or enterocele, are present. Transanal repair combined with posterior colporaphy has been recommended for the cure of OD symptoms associated with large anterior rectocele. In a series of more than 80 patients van Dam and Co-authors report good functional results and improvement of symptoms in approximately 70 percent of the cases. Size of rectocele, presence of rectoanal intussusception and anismus did not seem to affect outcomes. The only predictive factor of functional failure was the presence of slow transit constipation. Furthermore, a substantial percentage of female patients experienced dyspareunia, which was attributed to fibrotic thickening of the rectovaginal septum.

Stapled trans-anal rectal resection (S.T.A.R.R.) and its modification trans-S.T.A.R.R. have been recommended for the correction of both the anterior rectocele and the rectoanal intussusception. There are several studies, including large registries, which show that the procedure rearranges anatomical abnormalities and improves OD symptoms. According to the ODS II Study Group and the European STARR Registry, where 2224 patients were included, immediate postoperative morbidity is as high 36 percent, and includes bleeding, dehiscence of the anastomotic line, sepsis, rectal necrosis and recto-anal fistula. Most of the anatomical abnormalities, with the ex-

### TABLE 1

**PROCEDURES FOR THE SURGICAL TREATMENT OF THE OD SYNDROME**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Anatomical Abnormality</th>
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<tr>
<td>Resection of Prolapsing Rectal Mucosa</td>
<td>Anterior Rectal Mucosa Prolapse</td>
</tr>
<tr>
<td>Posterior Colporaphy</td>
<td>Anterior Rectocele</td>
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<tr>
<td>Resection Plication of Anterior Rectal Mucosa</td>
<td>Anterior Rectocele</td>
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<tr>
<td>Stapled Trans-Anal REctal Resection (S.T.A.R.R.)</td>
<td>Anterior Rectal Mucosa Prolapse</td>
</tr>
<tr>
<td>Trans-S.T.A.R.R.</td>
<td>Rectocele</td>
</tr>
<tr>
<td>Posterior Rectopexy (+/- Prosthesis)</td>
<td>Internal Rectal Prolapse</td>
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<tr>
<td>Resection Rectopexy</td>
<td>Rectocele</td>
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<tr>
<td>Trans-S.T.A.R.R.</td>
<td>Internal Rectal Prolapse</td>
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<tr>
<td>Ventral Prosthesis Colpo-Rectopexy</td>
<td>Rectocele</td>
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<td>Internal Rectal Prolapse</td>
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ception of enterocele and sigmoidcele, are corrected in great extent. Symptoms of OD and patient’s satisfaction improve substantially to almost more than 75 percent of the cases and for at least one year. However, urgency, tenesmus, frequent small motions, discomfort and pain, even incontinence, have been reported in 20-35% during the first months postoperatively, which are attributed to the local edema and rectal wall stiffness, and the reduction in the compliance and volume capacity of the rectum. There is a tendency these symptoms to subside be time. Also, a substantial percentage of the patients experience postoperative anismus, which necessitates further treatment with biofeedback training. Skepticism and criticism has also been addressed to the procedure; recurrence of prolapse and failure to alleviate symptoms in almost have of the cases have been reported. Several authors consider rectal intussusception and rectocele as epiphenomena and not causative factors of ODS and propose only conservative treatment for the syndrome, although, again according to results of ODS II Study Group, there is evidence that STARR procedure is superior to biofeedback training alone in the treatment of OD syndrome.

The modification of the STARR procedure with application of the Contour device (Trans-STARR) tends to rectal tissue and Renzi et al in their multicenter trial report successful treatment of symptoms in 86 percent of the cases, within a short though follow-up period. A variety of prosthesis or suture rectopexies, by open or laparoscopy, for the correction of internal prolapse or rectocele have been popularized in late '80 and '90. Despite the rerangment of the anatomical abnormalities, functional results have not been encouraging, except in case of co-existing enterocoele, solitary rectal ulcer and fecal incontinence. Furthermore, new symptoms may appear postoperatively, such as tenesmus, perineal discomfort or pain, urgency and small frequent bowel motions, as a result reduced capacity and compliance of the rectum. Also, as a result of postero-lateral mobilization of the rectum and the division of the S2-S4 parasympathetic fibers at the level of the lateral rectal ligament, newly appearing constipation is a common consequence. In the more recent study by Tsiaoussis et al, where resection suture rectocele by laparoscopy for the treatment of large (>4cm) rectoanal intussusception and associated enterocoele was applied, a correction of anatomical deformities was seen in almost all patients, while OD symptoms and the newly appearing symptoms of urgency and tenesmus subsided substantially by one year after surgery. Very recently, prosthesis ventral colpo-rectocele by laparoscopy has been introduced for the correction of internal rectal prolapse, rectocele and enterocoele, and the treatment of OD syndrome. The procedure is associated with low recurrence rate of anatomical abnormalities (<5 percent) and improvement of OD symptoms in more than 80 percent of the cases, while there is no newly reported constipation, nor fecal incontinence, because postero-lateral mobilization of the rectum is avoided. Furthermore, the procedure, by eliminating the Douglas pouch and by creating a rather stiff rectovaginal septum, corrects invariably enterocele and rectocele. Also, the procedure is not associated with tenesmus and urgency, although there always concern of dyspareunia in sexually active female.

CONCLUSIONS

Selection of patients with OD symptoms for surgery should be thorough and only after meticulous preoperative clinical and laboratory investigation, and after all conservative measures are exhausted. S.T.A.R.R. and laparoscopic prosthesis ventral colporectocele are the most popular procedures nowadays, associated with correction of anatomical abnormalities in most of the cases and significant symptomatic improvement in almost 80 percent of the cases. However, follow-up does not exceed two years, and long-term outcomes of these two procedures are awaited, bearing always in mind that pelvic floor structure and function may deteriorate by time in the multiparous elderly female.

SUMMARY

FUNKCIONALNI REZULTATI NAKON OPERACIJE
ZBOG OPSTRUKTIVNE DEFEKACIJE

Sindrom opstruktivne defekacije (OD) je udružen sa više abnormalnosti pelvičnih organa, naime sa anteri-ornim prolapsom mukoze rektuma, prednjem rektocelom, rekto-analnom intususcepcijom dubokim Douglas-ovim šapom koji predisponira enterocelu ili rektocelu. Hirurški treba tretirati anatomske deformitete tek nakon temeljne selekcije pacijenata i kada su iscrpljena sva konzervativna rešenja. Transperinealna procedura uključuje resekciju i plikaciju prednjeg zida rektuma i staplersku transanalnu resekciju rektuma i indikovane su kod anteriorne rektocelle i unutrašnjeg prolapsa rektuma. Funkcionalni rezultati su zadovoljavajući kod 75% slučajeva. Transabdominalne procedure uključuju posteriorne prostetske rektopeksije, resekciju i šavnu rektopeksiju i ventralnu prostetsku koleroktepsiju. Ove procedure su indikovane kod pacijenata sa velikom rektocelom i rektalnom intususcepcijom i enetrocelom ili sigmoidocelom. Učestalost izvodjenja operacija ispravljanja anatomskih deformiteta je u porastu, a smanjenje simptoma se sreće kod više od 80% slučajeva. Ventralne prostetske kolorektopeksije deluju kao obećavajuće procedure, mada su neophodna dalja praćenja i dokazi.

Ključne reči: prolaps rektuma, rektocela, enterocela, anorectalna intususcepcija

REFERENCES


