

CASE REPORT

Rectal prolapse

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Abstract: It is not so much the diagnosis that offers the surgeon a wide range of opportunities in the technical solutions of rectal prolapse. Currently there are at least 130 different techniques used in the surgical treatment of rectal prolapse and in fact none of these procedures has been shown most effective for any one patient. In this study, our intent is to describe the experiences of the authors with the treatment of rectal prolapse, to estimate the actual level of expertise of the surgeons in treatment of rectal prolapse, and to describe in which way to proceed in the future (Tab. 4, Fig. 3, Ref. 27). Full Text (Free, PDF) www.bmj.sk.

Key words: rectal prolapse, anorectal disorders, procidentia, constipation, fecal incontinence.

For many years, rectal prolapse has been associated with a high risk of recurrence. Poor recurrence statistics prevented the physicians from proposing surgical therapy to the patients and fuelled an air of pessimism among surgeons as to whether surgical therapy should be attempted.

The last two decades however have presented a different situation owing to new surgical treatment techniques. The aim of this study is to mention the new trends in the treatment of rectal prolapse, evaluate the techniques, and describe our own experiences. At each of the three surgical clinics at which I have worked, we have surgically treated approximately 5 patients with the diagnosis of rectal prolapse per year. We could have used surgical therapy in more patients if the medical community had been better informed about the potential surgical opportunities of the treatment and the fruitfulness of this kind of therapy. On the other hand, wider knowledge of the most recent methods on the treatment of rectal prolapse can provide the patients with fewer recurrences (Fig. 1).

Definition

Rectal prolapse – *procidentia*, is a bulging of all layers of the rectal wall through the anal channel to the external environment. It was first described in Ebers Papyrus as early as 1500 BC (Corman, 2004) and is a condition that is most common in children under 2 years and the elderly. In children the condition most often involves only the mucosa and is therefore referred to as “partial prolapse”, which frequently draws back spontaneously without the necessity of surgical treatment.

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Classification of rectal prolapse

In Slovakia and Czech Republic it is a standard practice to classify rectal prolapse in 4 categories according to the classification system created by Novak (1985) shown in Table 1. Other classifications place emphasis on the emergent onset of sliding herniation of the deep pouch of Douglas. The classification is necessary to assess the mostly advisable method of treatment (Tab. 2).

Epidemiology

Currently women are more susceptible than men and represent approximately 90 % of all patients (Corman, 2004). There is no clear incidence rate currently published in Czech or Slovak literature, however the condition is more common in children and the elderly. In individuals younger than 50, up to 50 % may have psychiatric disorders requiring chronic medical therapy (Marceau, 2005).



Fig. 1. Picture of preoperative findings.

Tab. 1. Forms of rectal prolapse according to Professor Novák (Novák, 1985).

Form of rectal prolapse	Characterization
Grade 1 Prolapse of the anal mucosa	Haemorrhoids grade III–IV can be seen in diagnosis. Frequent spontaneous resolution in children without surgical treatment
Grade 2 Prolapse of the anus	Protrusion of anal part of the rectum
Grade 3 Prolapse of the rectum	Protrusion of rectal wall without anal channel
Grade 4 Prolapse of the anus and rectum	Combination of forms 2 and 3

Tab. 2. Forms of rectal prolapse and method of treatment according to Prof. Nyhus (Nyhus and Baker, 1984).

Form of rectal prolapse	Method of treatment
Type 1 Protrusion of mucosa through the anal channel	Haemorrhoidectomy with resection of mucosa (e.g. LONGO operation)
Type 2 Protrusion of the entire wall of the rectum	Rectopexis with or without resection of sigma (perineal or abdominal access)
Type 3 Sliding hernia with hernial sac in front from space of Douglas	The same method of treatment as in type 2 but it is necessary to be aware of the hernial sac in Douglas space

Tab. 3. Reasons of rectal prolapse development from the anatomical standpoint.

Reasons of rectal prolapse development from the anatomical standpoint
1) Sacrococcygeal excavation (absent in children)
2) Lack of adipose tissue in children and elderly people
3) Atonia or weakening of the pelvic floor muscles
4) Atonia or weakening of the anal sphincter muscles
5) Increased abdominal pressure (obstipation, pregnancy)
6) Delayed transit

Tab. 4. Conclusions of basic operating types for rectal prolapse.

Conclusions of basic operating types for rectal prolapse	
Perineal access:	1 Altermeier – classic perineal proctosigmoidectomy
	2 Delorme – ablation of the abundant mucosa
	3 Tiersch – ring around the anal channel in the perisphincteric space
Abdominal access:	1 Ripstein – mesh abdominal rectopexy fixed from the anterior side of the rectum in a T or U shape (Ripstein, 1963)
	2 Wells – mesh abdominal rectopexy fixed from the posterior side of the rectum
	3 Efron – direct fixation of the rectosigmoidal junction and rectum with the sacral bone

Pathophysiology

Anatomical standpoint. The pathophysiology of this condition is to this day unclear. In child patients, there is an absence of sacrococcygeal excavation resulting in a less curved surface of the ampulla of the rectum (Kairaluoma, 2005). With normal development of the child, the rectal prolapse can resolve spontaneously due to the anatomical development of the sacral and coccygeal bones. Internal intussusception that started 8 to 10 cm

above the linea dentata and finished above the anal canal was demonstrated by Broden and Snellman by defecography already 40 years ago but it is still not clear whether this is the initial stage of prolapse of rectum (Shorvon, 1989, Madoff, 1999, Broden, 1968, Hull, 2003). Moschowitz suggests that it is some form of the sliding hernia (Moschowitz, 1912) (Tab. 3).

Functional standpoint. Constipation is one of the two main functional disorders associated with rectal prolapse. It occurs in more than half of the patients (Kairaluoma, 2005, Agachan, 1996). The connection between these two conditions is unknown, but according to literature, the etiological factors of constipation include paradoxical puborectalis contraction, obstructing rectal intussusception, and slow-transit. The condition does not always disappear postoperatively due to denervation from the division of lateral ligaments (Speakman, 1991), loss of compliance of the rectum as a result of mesh placement and kinking of the redundant loop of sigmoid colon after rectopexy (McKee, 1992).

Faecal incontinence is the second main functional problem related to rectal prolapse. According to literature it occurs in more than half of the patients (Madiba, 2005). The clear cause of incontinence is still unknown, but we predict it is due to continuous stimulation of the rectoanal inhibitory reflex caused by the prolapse that leads to low internal anal sphincter pressures (Spencer, 1984). This theory is confirmed by manometric studies comparing patients with prolapse to patients with neurogenic fecal incontinence as well as to normal subjects. Continence improves significantly after the repair of rectal prolapse (Farouk, 1994, Schultz, 1996, Poen, 1996).

Clinical evaluation and diagnosis

The prolapse initially occurs while evacuating the stool and reduces spontaneously. The patient will later require manual reduction and complains of soilage, bleeding, incontinence and some-

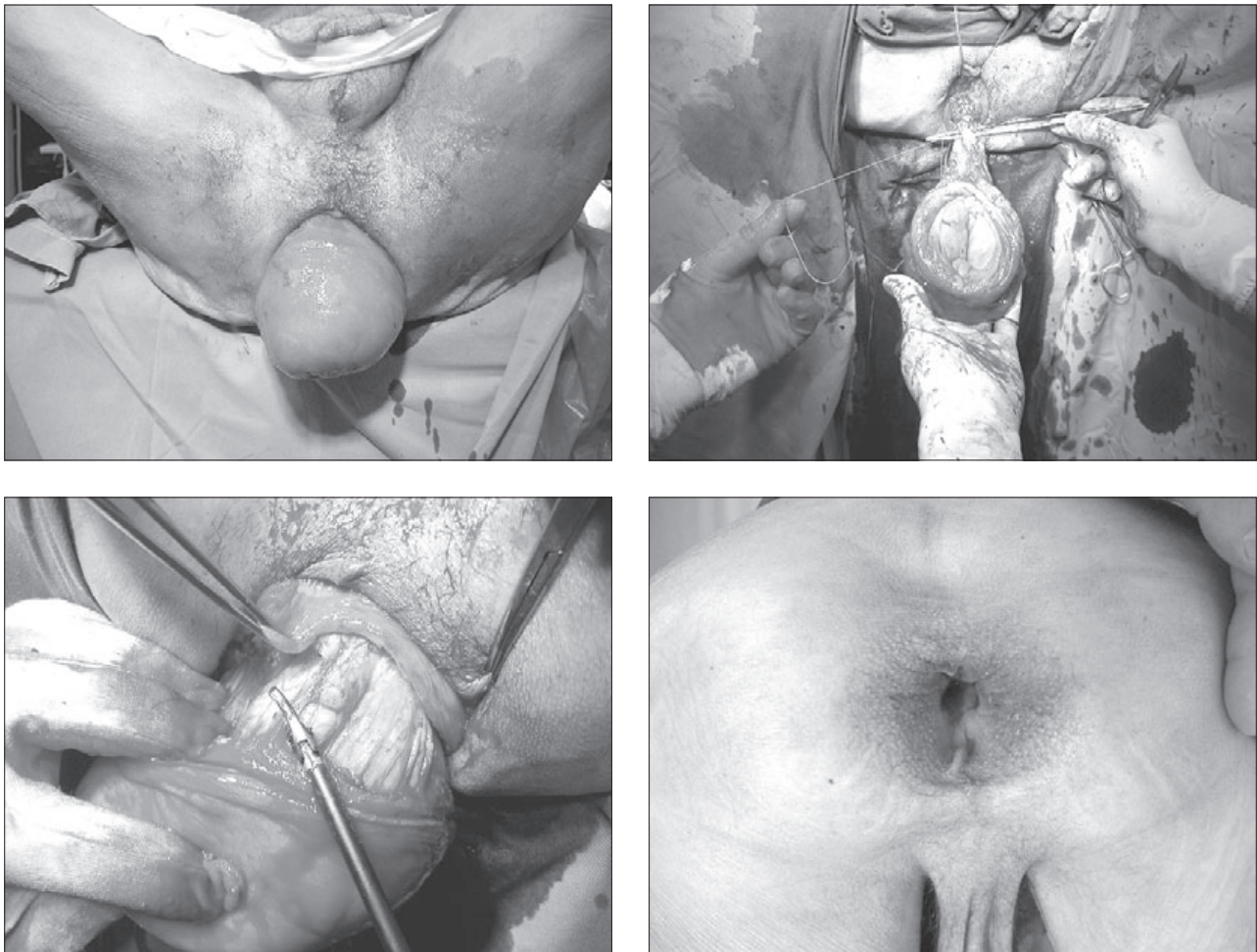


Fig. 2 a, b, c, d. Altermeier procedure (Mýtník, 2007).

times pain. Examination often reveals that soilage is present and rectal tone is absent. Algorithm of examinations are as follows:

- 1) Manual examinations per rectum – the patient should be asked to strain on the toilet;
- 2) Rectoscopy – used to rule out polyps or neoplasia as a cause of the prolapse and to make differential diagnosis from prolapsing internal hemorrhoids and mucosal prolapse (see the chapter about the types of prolapses). In rectal prolapse the mucosal folds are always concentric;
- 3) Some authors also recommend colonoscopy and a colonic transit study for the differential diagnosis of constipation, as constipation can have a significant impact on the choice of operation – these patients are candidates for total abdominal colectomy and ileorectal anastomosis;
- 4) Defecography – with this examination it is possible to obtain a very fast diagnosis of rectal prolapse and internal intussusception;
- 5) Manometry – it is performed each time to estimate the actual grade of anal incontinence;
- 6) Endoanal ultrasonography – it is a complementary examination to eliminate any lesion of the anal sphincters;
- 7) and finally, some clinics perform pudendal nerve terminal

motor latency (PNTML) which confirmed neuropathy of pudendal nerve (Korcek, 2008).

According to literature, the conclusion is that postoperative continence cannot be predicted by preoperative PNTML results (Schultz, 1998). However, some authors suggest that preoperative assessment of bowel function allows an accurate selection of the repair technique (Madbouly, 2003).

Treatment

Few prospective data exist to guide our therapy. There are 11 randomized controlled trials evaluating the procedures for rectal prolapse and the largest involves only 63 patients (O'Brien, 2007). Unfortunately, there is still a lot of surgeons who restore the normal anatomy (Chorváth, 1962). We feel that acceptable results can only be achieved by addressing the alterations in both function and anatomy (Tab. 4 and Figs 2, 3 and 4).

In the initial stages with minimal symptomatology it is necessary to start with rehabilitation exercises to strengthen the pelvic floor. Patients must be instructed not to increase the abdominal pressure too much during defecation, and to possibly use

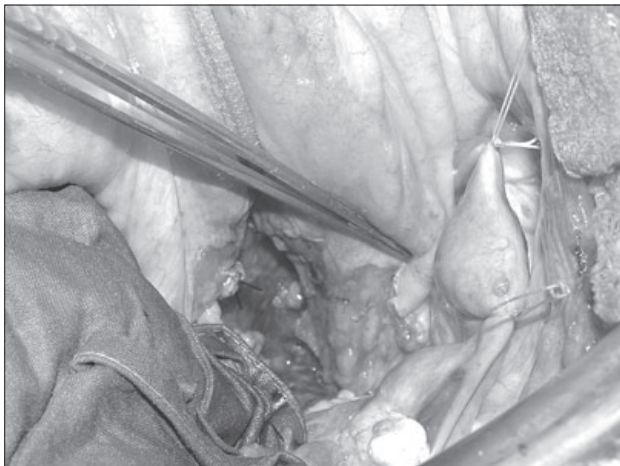


Fig. 3 a, b. Wells procedure – mesh abdominal rectopexy fixed from the posterior side of the rectum.

a mild laxative and maintain a fibrous diet. If the situation does not improve it is necessary to use surgical therapy. Operating techniques are divided into two main groups:

- 1) Laparoscopic abdominal approach (Gurlich, 2006);
- 2) Perineal approach.

Our database of patients

In our database, all the patients operated on have been women, and no one of my co-authors has operated on more than 10 patients. All of the patients are older than 50 years of age. We did not resect the sigma to prevent “kinking”, because we are concerned about infection and so we used mesh. Our study is retrospective and non-randomised. Therefore it is not possible to answer the question as to which of the operations is the best one.

Discussion

Today there are still too many questions left unanswered:

- 1) What is the extent of mobilisation of the rectum and recto-sigmoidal junction through the abdominal approach;
- 2) Is it necessary to divide the lateral ligaments
- 3) What kind of mesh is the best one (Goretex?, Marlex?, Teflon?)
- 4) How long after the operation is it normal to still have incontinence of faeces?

Conclusion

The results of the treatment are still not satisfactory. Due to the fact that there are only a few of studies at present, it is not possible to say which operating technique is the preferred method of choice. The perineal approach is preferred in polymorbid patients. However, if the diagnosis of serious motility dysfunction is preoperatively confirmed the method of choice is the total abdominal colectomy with ileorectal anastomosis and rectopexy. If the motility of the colon is good, rectopexy is sufficient. The laparoscopic approach in order to reduce postoperative pain and

hospital stay may have similar functional results. In current literature it is rare to find a case of rectal prolapse in young men. If surgically treated however, the frequency of postoperative sexual dysfunction is very high. One way to resolve this problem is to use the perineal approach (Farouk, 1998).

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Received December 22, 2008.
Accepted November 17, 2009.