

ADVANTAGES OF LAPAROSCOPIC SURGICAL TECHNIQUES IN THE TREATMENT OF RECTAL PROLAPSE

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ABSTRACT

The authors reviewed the problems in the treatment of rectal prolapse and compared the results of the monitoring of a group of 124 patients over a period of 16 years. Based on the application of different surgical techniques and follow-up of short-term and long-term results, they suggested the use of laparoscopic surgical techniques in patients with high surgical risk and advanced stage of rectal prolapse.

Key words: *rectal prolapse, laparoscopic approach, laparoscopic rectopexy, laparoscopic resection*

INTRODUCTION

Rectal prolapse is one of the most common benign diseases of modern time. Because of the delicacy of this kind of morbidity a great number of patients look for medical help when symptoms are extremely manifested. The rectal prolapse disease could be divided into two major groups - incomplete (prolapse of the rectal mucosa only) and complete (full thickness). There are three degrees of the complete form - internal, visible at the anal verge on straining, and external. A different operative treatment with a variety of preoperative approaches is needed for all these forms of the rectal prolapse.

The aim of the present study was to prove the advantages of the laparoscopic operative techniques in the treatment of rectal prolapse.

MATERIAL AND METHODS

We observed 124 patients with rectal prolapse during a 16-year period from January, 1997 until August, 2013. Gender distribution ratio was approximately 4:1 - 96 female to 28 male patients. The number of patients with complete rectal prolapse was 75.

RESULTS

The following operations were performed: anal encirclement - 8 patients, mucosal sleeve resection (Delorme's procedure) - 18, mucosal sleeve resection (Longo's procedure; STARR) - 50, perineal rectosigmoidectomy (Altemeier) - 12, open surgery suture (rectopexy) - 4, open surgery anterior sling (Ripstein) - 6, open surgery posterior sling (Wells) - 9, open surgery resection - 3, open surgery resection and rectopexy (Frykman-Goldberg) - 4, laparoscopic rectopexy - 4, laparoscopic anterior sling - 3, laparoscopic posterior sling - 2, and laparoscopic resection and rectopexy - one patient.

DISCUSSION

Etiology of the rectal prolapse is incompletely clarified yet while its pathogenesis is relatively well studied. Concerning the etiology of prolapse, the role of increased tone of the anal sphincters in combination with impaired change in stool habits, periods of acute constipation and congenital weakness of the connective tissue, surely occupy a central place in the development of prolapsed (3). The presence of internal hemorrhoids in combination with marked rectal prolapse in seventy-two patients of ours certainly confirms the direct link between these two benign diseases of the rectum. Unfortunately, due to the late time of the first medical examination it is certainly impossible to decide whether hemorrhoidal disease itself is a cause of prolapse or prolapse as a

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disease resulting in disturbance of the integrity of the rectoanal region is a cause of hemorrhoidal disease (2).

Most authors are proponents of the idea of the existence of a causal link between hemorrhoidal disease as a weak point in the anatomical integrity of the rectoanal region, which is the cause of prolapse in the presence of other factors. Selecting an operating mode for treating the rectal prolapse should be based mainly on patient's characteristics, i.e. attention should be paid to the degree and the form of prolapse as a starting point for the choice of treatment, as well as to the age, gender, anatomical features and presence of accompanying diseases. Important in the choice of surgical treatment is qualitative diagnosis and preoperative preparation of the patients (4).

From a diagnostic point of view, anal tonometry, transanal echography and defecography are especially important. Reporting the anesthesia preoperative and operative risk in combination with information gathered by the specialized and focused research allows the surgeon to choose the right method of treatment and at the same time to provide long-lasting postoperative results. With the advent of laparoscopy a number of surgical techniques for treatment of rectal prolapse have been developed using the advantages of this type of surgery (1). Based on proven conventional surgical techniques in the treatment of this disease, laparoscopic techniques for the treatment of rectal prolapse are characterized by a reduced level of operational trauma, a short period of postoperative discomfort, less and even negligible intraoperative blood loss, improved visualization and identification of anatomical structures, opportunity for better intraoperative assessment of individual characteristics and intraoperative findings, intraoperative selection of the most appropriate operative technique, reduced hospital stay, and hence, a lower financial cost and lower incidence rate of postoperative complications (6).

Comparing the results of our patients demonstrates a benefit from the use of laparoscopic operative technique for patients at increased surgical and anesthetic risk than conventional transabdominal surgical techniques. Concerning the early and late postoperative results and recurrence rates after transabdominal laparoscopic intervention, on the one hand, and after conventional transabdominal and perineal accesses, on the other hand, there were

significantly better results after laparoscopic than after conventional surgery (5). They were characterized by a relapse rate of approximately 25%. Concerning patient's distribution by operative and anesthetic risk, the application of laparoscopic operative techniques was more often used in the patients with higher comorbidity and of higher anesthetic and operative risk.

CONCLUSION

Laparoscopic surgical techniques for the treatment of rectal prolapse is characterized with shortened operative time, decreased mortality rate, lower relapse rate, reduced operational risk, decreased postoperative pain and discomfort, shortened hospital stay and comparable early and late results when compared with open-surgical techniques of transabdominal approach. Perineal treatments, although characterized by lower operating anesthetic risk were, at the same time, characterized by a high recurrence rate.

REFERENCES

1. Bruch, H. P., A. Herold, T. Schiedeck, O. Schwandner. Laparoscopic surgery for rectal prolapse and outlet obstruction.- *Dis. Colon Rectum*, **42**, 1999, No 9, 1189-1194; discussion 1194-1195.
2. D'Hoore, A., R. Cadoni, F. Penninckx. Long-term outcome of laparoscopic ventral rectopexy for total rectal prolapse.- *Br. J. Surg.*, **91**, 2004, No 11, 1500-1505.
3. Delaney, C. P., R. P. Kiran, A. J. Senagore, K. Brady, V. W. Fazio. Case-matched comparison of clinical and financial outcome after laparoscopic or open colorectal surgery.- *Ann. Surg.*, **238**, 2003, No 1, 1, 67-72.
4. Kairaluoma, M. V., M. T. Viljakka, I. H. Kellokumpu. Open vs. laparoscopic surgery for rectal prolapse: a case-controlled study assessing short-term outcome.- *Dis. Colon Rectum*, **46**, 2003, No 3, 353-360.
5. Kariv, Y., C. P. Delaney, S. Casillas, J. Hammel, J. Nocero, J. Bast, et al. Long-term outcome after laparoscopic and open surgery for rectal prolapse: a case-control study.- *Surg. Endosc.*, **20**, 2006, No 1, 35-42.
6. Solomon, M. J., C. J. Young, A. A. Evers, R. A. Roberts. Randomized clinical trial of laparoscopic versus open abdominal rectopexy for rectal prolapse.- *Br. J. Surg.*, **89**, 2002, No 1, 35-39.