

# Surgery for rectal prolapse – a single centre experience

## Tiesiosios žarnos iškritimo chirurginis gydymas – vieno centro patirtis

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### Background

No consensus on the optimal procedure for repair of rectal prolapse (RP) exist. We present the results of our 10 year experience of Vilnius University Hospital Santariskiu Klinikos.

### Patients and methods

Retrospective review was performed of the patients, operated on for rectal prolapse between 2005 and 2016. Patients were divided into two groups – internal recal prolapse (IRP) and complete rectal prolapse (CRP). Perioperative data between two groups were analysed. Statistical data analysis was carried out using the SPSS 20.0 software. To assess the difference between rectal prolapse groups of statistical methods the  $\chi^2$  test was used. Data were considered statistically significant at  $p < 0.05$ .

### Results

89 patients between 2005 and 2016 underwent surgical treatment for rectal prolapse at our department. IRP group included 52 (58,4%), CRP – 37 (41,6%) patients. The male/female ratio was 1/6,4, the mean age was 58,3±15,2 years. Defecography was performed for 29 (32,6%) patients in IRP group and for 12 (13,5%) – in CRP group ( $p < 0,001$ ). 7 (7,9%) patients in CRP group had previous surgical procedure for RP while in IRP group there were none ( $p = 0,02$ ). The most common management of IRP included 6 strategies ( $n = 25$ , 67,5% of group); of CRP – 3 different procedures ( $n = 38$ , 73,1% of group) ( $p = 0,003$ ). Mean hospital stay in IRP group was significantly ( $p = 0,014$ ) longer (9,78±4,6 days) than in CRP group (7,58±3,7 days). Mortality rate was 0%. Mean follow-up (14 patients) was 20,93±17,21 months.

### Conclusion

There is no evidence-based consensus regarding treatment of rectal prolapse. Management of IRP covered a more diverse range of surgical options, including of open approach. Thus, hospital stay was longer, but no mortality occurred. Further follow-up for evaluation of long-term outcome is necessary.

**Key words:** rectal prolapse, rectopexy, resection, laparoscopy

## **Įvadas**

Dėl vienos tiesiosios žarnos iškritimo gydymo strategijos nesutariama. Mes apžvelgėme tiesiosios žarnos iškritimo gydymą Vilniaus universiteto ligoninėje Santariškių klinikose.

## **Pacientai ir metodai**

Retrospektyviai tirti pacientai, operuoti dėl tiesiosios žarnos iškritimo 2005–2016 metais. Pacientai suskirstyti į dvi grupes – viso storio iškritimo (CRP) ir vidinio iškritimo (IRP). Buvo palyginti perioperaciniai grupių duomenys. Duomenys apdoroti statistinio duomenų paketo SPSS 20.0 versija. Skirtumas tarp grupių lygintas remiantis chi kvadrato testu, vertintas kaip reikšmingas, jei  $p$  vertė buvo  $< 0,05$ .

## **Rezultatai**

Minėtu laikotarpiu operuoti 89 pacientai. Dėl vidinio iškritimo – 52 (58,4 %), dėl viso storio iškritimo – 37 (41,6 %). Vyrų ir moterų santykis buvo 1/6,4, vidutinis amžius –  $58,3 \pm 15,2$  metų. Defekografija atlikta 29 (32,6 %) IRP grupės ir 12 (13,5 %) – CRP grupės pacientams ( $p < 0,001$ ). Septyni (7,9 %) CRP grupės pacientai praeityje buvo operuoti dėl tiesiosios žarnos iškritimo, o IRP grupėje anksčiau operuotų pacientų nebuvo ( $p=0,02$ ). IRP grupės pacientai buvo operuoti šešiais būdais, o CRP – trimis būdais ( $p = 0,003$ ). Vidutinė IRP grupės pacientų hospitalizacijos trukmė buvo ilgesnė ( $p = 0,014$ ) ( $9,78 \pm 4,6$  dienos) negu CRP grupės ( $7,58 \pm 3,7$  dienos). Mirštamumas buvo 0 %. Vidutinė 14 pacientų stebėjimo trukmė buvo  $20,93 \pm 17,21$  mėnesio.

## **Išvada**

Iki šiol nesutariama dėl to, kuri operacija tinkamiausia sergantiesiems tiesiosios žarnos iškritimu. Laparoskopinė ventralinė rektopeksija tinkliu šiuo metu yra populiariausia operacija šiai ligai gydyti.

**Reikšminiai žodžiai:** tiesiosios žarnos iškritimas, rektopeksija, rezekcija, laparoskopija

## **Introduction**

Rectal prolapsed is a socially debilitating condition where the full thickness of the rectal wall protrudes from the anus. Patients with rectal prolapse may concomitantly also experience fecal incontinence and other defecatory difficulties. These disorders can be extremely debilitating and have a negative impact on quality of life. Rectal prolapse is mostly associated with fecal incontinence and constipation. Women aged 50 and older are more likely as men to present with rectal prolapsed, following urinary dysfunction and vaginal prolapse [1].

Numerous surgical procedures, both perineal and abdominal, are currently practiced for the treatment of complete rectal prolapse. The abdominal operations carry a lower recurrence rate and improved functional outcome and are therefore preferred over the perineal operations. The latter are reserved for those who are unfit to undergo an abdominal procedure.

In 2004, D. Hoore introduced laparoscopic ventral rectopexy with very promising results. The unique feature of this technique is that it avoids any posterolateral dissection of the rectum in order to avoid constipation and sexual dysfunction. The mesh is sutured to the anterior aspect of the rectum to inhibit intussusception.

Because this technique limits the dissection and the subsequent risk of autonomic nerve damage, the functional outcome is improved with minimal long term morbidity and low rates of recurrence and the short term follow up results are very convincing [2, 3].

Ventral rectopexy has gained popularity in Europe to treat full-thickness rectal external and internal prolapse. This procedure has been shown to achieve acceptable anatomic results with low recurrence and complications rates. Although long term results are being assessed, learning curve affects the outcome in initial series and complications are related to the learning curve as well as the techniques [4].

## **Patients and methods**

Retrospective review was performed of the patients, operated on for rectal prolapse between 2005 and 2016. Patients were divided into two groups – internal rectal prolapse (IRP) and complete rectal prolapse (CRP). Perioperative data between two groups were analysed. Statistical data analysis was carried out using the SPSS 20.0 software. To assess the difference between rectal prolapse groups of statistical methods the  $\chi^2$  test was used. Data were considered statistically significant at  $p < 0.05$ .

## Materials and methods

The study included 89 patients, treated with rectopexy for complete and incomplete rectal prolapse. The male/female ratio was 1/6.4. The mean age was  $58.3 \pm 15.2$  years. Mean duration from symptoms until surgery was  $5.76 \pm 5.88$  years ( $n=67$ ). IRP group included 37 (41.6%), CRP – 52 (58.4%) patients. The most common management of IRP included 6 strategies ( $n=25$ , 67.5% of group, Table 1); of CRP – 3 different procedures ( $n=38$ , 73.1% of group, Table 2) ( $p=0.003$ ). Mean hospital stay in IRP group was significantly ( $p=0.014$ ) longer ( $9.78 \pm 4.6$  days) than in CRP group ( $7.58 \pm 3.7$  days). Mean overall operating time was  $143.59 \pm 38.32$  min. Postoperative complications occurred in 9 (10.1%) patients, 2 (2.2%) of them required additional surgical management. There was no mortality after surgical procedures.

Follow-up data was available for 14 patients with a mean follow-up of  $20.93 \pm 17.21$  months. Recurrence occurred for 2 (14.3%) patients  $1.5 \pm 0.7$  months after surgery. 9 (64.3%) patients still experienced obstructed defecation. 12 (100%) patients (without recurrence) stated positive life quality improvement after surgery.

## Discussion

It is agreed that surgery is the only suitable treatment for patients with rectal prolapse. The published literature

shows that there are many different operations used for rectal prolapse, our study revealed similar results. No good quality studies are available for patients with rectal prolapse [5]. So we basically do not know which procedure we should be choosing.

Other conditions could be present along the rectal prolapse such as urinary incontinence, bladder prolapse and vaginal/uterine prolapse. Because of the variety of potential problems, urologists, gynecologists and other specialists are often team together to share evaluations and make joint treatment decisions [6]. This way, surgeries to repair any combination of problems can be done at the same time.

There are two options for rectal prolapse surgery. One is to do the operation through the abdomen. The other option is to do the operation through perineum. And there are many questions with regards to abdominal approaches. The suturing or including the mesh, whether we should completely mobilize the rectum or save lateral ligaments, should we resect or not, whether we should do open or laparoscopic operation, whether we put mesh anteriorly or posteriorly [7, 8, 9].

Looking at the perineal procedures we should decide, whether we should be taking just the mucosal or the full thickness rectal resection. Patients have high recurrence rate, but usually only ill patients get this operation. So it is good symptomatic care for those patients.

In the literature ventral mesh rectopexy seems to be save and effective for rectal prolapse. It is probably not optimal operation for obstructed defecation, but the only one to address all the thoughts anatomical aspects of the disease. Recurrence rates ranges from 0 to 14%. At the last year in our centre this procedure is the main option for rectal prolapse treatment [10, 11].

In our study during 20 months recurrence rates was 14,3%. The main principles of the treatment are to correct the anatomical defect, alleviate bowel dysfunction and avoidance of functional abnormalities of incontinence, constipation, and pain, with an acceptable rate of recurrence and the lowest rate of complications.

## Conclusions

There is no evidence-based consensus regarding treatment of rectal prolapse. Ventral mesh rectopexy seems to be the emerging surgical technique for abdominal repair.

**Table 1.** Operations for internal rectal prolapse

Procedure	No of pts, (n=37)
Ventral mesh rectopexy	7
Loygue operation	11
Suture rectopexy	11
Posterior mesh	3
Combined abdominal-perineal	4
Delorme internal	1
Laparoscopic	15 (40.4%)

**Table 2.** Spectrum of operations for complete rectal prolapse

Procedure	No of pts, (n=52)
Ventral mesh rectopexy	13
Loygue operation	18
Suture rectopexy	20
Posterior mesh	1
Laparoscopic	42 (80.8%)

## REFERENCES

1. Cullen J, Rosselli JM, Gurland BH. Ventral Rectopexy for Rectal Prolapse and Obstructed Defecation. *Clin Colon Rectal Surg.* 2012;25(1):34–36. doi:10.1055/s-0032-1301757.
2. Formijne Jonkers HA, Poirrié N, Draaisma WA, Broeders IA, Consten EC. Laparoscopic ventral rectopexy for rectal prolapse and symptomatic rectocele: an analysis of 245 consecutive patients. *Colorectal Dis.* 2013;15(6):695–699. doi:10.1111/codi.12113.
3. D’Hoore A, Cadoni R, Penninckx F. Long-term outcome of laparoscopic ventral rectopexy for total rectal prolapse. *Br J Surg.* 2004;91(11):1500–1505. doi:10.1002/bjs.4779.
4. Sileri P, Franceschilli L, de Luca E, Lazzaro S, Angelucci GP, Fiaschetti V, et al. Laparoscopic ventral rectopexy for internal rectal prolapse using biological mesh: postoperative and short-term functional results. *J Gastrointest Surg.* 2012;16(3):622–628. doi:10.1007/s11605-011-1793-2.
5. Tou S1, Brown SR, Nelson RL. Surgery for complete (full-thickness) rectal prolapse in adults. *Cochrane Database Syst Rev.* 2015 Nov 24;11:CD001758. doi: 10.1002/14651858.CD001758.pub3.
6. Varma, M., Rafferty, J., Buie, W. D.; Standards Practice Task Force, American Society of Colon and Rectal Surgeons. Practice Parameters for the Management of Rectal Prolapse. *Dis Colon Rectum.* 2011;54(11):1339–1346.
7. Mercer-Jones MA, D’Hoore A, Dixon AR, Lehur P, Lindsey I, Mellgren A, Stevenson AR. Consensus on ventral rectopexy: report of a panel of experts. *Colorectal Dis.* 2014;16:82–88.
8. Madiba TE, Baig MK, Wexner SD. Surgical management of rectal prolapse. *Arch Surg.* 2005;140:63–73.
9. Tou S, Brown SR, Nelson RL. Surgery for complete (full-thickness) rectal prolapse in adults. *Cochrane Database Syst Rev.* 2015;11:CD001758.
10. Gouvas N, Georgiou PA, Agalianos C, Tan E, Tekkis P, Dervenis C, Xynos E. Ventral colpoproctopexy for overt rectal prolapse and obstructed defaecation syndrome: a systematic review. *Colorectal Dis.* 2015;17:O34–O46.
11. Pan K, Zhang Y, Wang Y, Wang Y, Xu H. A systematic review and meta-analysis of conventional laparoscopic sacrocolpopexy versus robot-assisted laparoscopic sacrocolpopexy. *Int J Gynaecol Obstet.* 2016;132:284–291.