Delorme’s Operation for Internal Rectal Prolapse in an Outpatient Hospital

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PURPOSE: Internal rectal prolapse frequently occurs in older, sometimes polymorbid patients. Trans-abdominal operation is therefore not always in the patient’s best interest. The aim of this retrospective study was to demonstrate that the Delorme’s procedure is feasible and safe to be performed in an outpatient setting. METHODS: This study is a retrospective review of a single-institution experience. Fifty-one patients (age 64.7 ± 12.5, range 35 to 90 years) with internal rectal prolapse were treated with Delorme’s procedure during 6-year period. Patients were assessed at follow-up 1 and 6 weeks after the surgery and phone interview was performed after 51.4 ± 16.5 months after operation. RESULTS: All 51 patients were operated under spinal anesthesia and observed for approximately 6 hours before discharge. Six patients needed referral to inpatient hospital for safety observation after the procedure. There were no mortalities in our study. One patient developed anaerobic infection and needed a colostomy. Out of 34 presenting with sensation of incomplete evacuation, 28 (82.4%) reported improvement after procedure, 13 out of 15 (86.7%) reported improvement in obstructed defecation symptoms and 4 out of 7 patients (57.1%) reported improvement in incontinence. Average sick leave was 16.0 ± 4.3 days. Seven patients suffered from postoperative stenosis. Recurrence was seen in 5 cases (9.8%). Majority of the patients (73.3%) would recommend this procedure for problems similar to their own. CONCLUSION: Our study shows that the Delorme’s procedure is feasible in an outpatient setting, with reasonable complications and satisfactory outcome.

Key words: Delorme’s procedure, internal rectal prolapse, outpatient hospital

INTRODUCTION

Internal rectal prolapse is a funnel shaped telescopic invagination of rectal wall that does not protrude through the anus. Patients most often complain of a perception of fullness or a lump inside the rectum and of difficulty in bowel regulation: constipation or sensation of incomplete defecation can be present. Patients with serious symptoms eventually have to resort to manually assisted evacuation through rectum or to digitation through posterior vaginal wall during defecation. Internal rectal prolapse affects predominantly women with 6:1 female versus male ratio and it typically occurs after the fifth decade of life 1.

Since internal intussusception is not always observable during rectal examination, radiologic studies are performed to aid the diagnosis 2. When incontinence is present, ultrasound can discover defects in anal sphincter and redundancy of prolapsed mucosa 2,3.

Various abdominal procedures with satisfactory results have been proposed for treatment of rectal prolapse, but none is universally applicable. Due to patient’s age and comorbidities less invasive surgical treatment is sometimes preferred 2,3.

Delorme’s operation is a perineal surgical procedure aimed at resecting the prolapsing mucosa. It was first described as a treatment for total rectal prolapse. It can be performed under regional anesthesia and is well tolerated, it is a an alternative to transabdominal procedures for patients with serious concomitant morbidities, but due to high recurrence rates, high complication rates and subsequent suboptimal anatomic and functional outcomes it has not been accepted as standard first line treatment for rectal prolapse 4.

In our study we used a modified Delorme’s procedure for internal rectal prolapse 5,6.
Our aim was to demonstrate that due to low level of invasiveness and short hospital stay after the surgery, this procedure makes a reasonable option for an outpatient procedure in the day case surgery unit.

**METHODS**

A total of 51 female patients with various degrees of rectal prolapse underwent a modified Delormé’s procedure at our institution in a 6-year period, between September 2008 and March 2013. All patients had clinically evident internal prolapse.

Written consent of patient was obtained for the treatment and for the scientific use of clinical data prior to the procedure, according to Declaration of Helsinki and Slovenian law requirements. Medical documentation was reviewed and subsequently further information was obtained from patients using written questionnaires and phone calls.

**TABLE 1**

<table>
<thead>
<tr>
<th></th>
<th>At 1 week (36 questionnaires in total)</th>
<th>At 6 weeks (35 questionnaires in total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain On defecation</td>
<td>13 (36,1%)</td>
<td>3 (8,6%)</td>
</tr>
<tr>
<td>Pain Continuous</td>
<td>4 (11,1%)</td>
<td>1 (2,9%)</td>
</tr>
<tr>
<td>Pruritus Spotting</td>
<td>4 (11,1%)</td>
<td>0 (0,0%)</td>
</tr>
<tr>
<td>Bleeding Dripping</td>
<td>11 (30,6%)</td>
<td>9 (25,7%)</td>
</tr>
<tr>
<td>Soiling Mucous</td>
<td>7 (19,4%)</td>
<td>1 (1,4%)</td>
</tr>
<tr>
<td>Soiling Occasional</td>
<td>2 (5,6%)</td>
<td>2 (5,7%)</td>
</tr>
<tr>
<td>Incontinence to gas</td>
<td>8 (22,2%)</td>
<td>4 (11,4%)</td>
</tr>
</tbody>
</table>

Our aim was to demonstrate that due to low level of invasiveness and short hospital stay after the surgery, this procedure makes a reasonable option for an outpatient procedure in the day case surgery unit.

**FIGURE 1: FLOW CHART OF INCLUDED PATIENTS.**
Pre-operative management

Preoperative diagnostic test included physical examination, proctoscopy and defecography; in some cases EMG studies, anal manometry and endoanal US were also performed.

Operation and follow-up

On the day of the procedure patients used a suppository to clean the bowel. All patients were operated under spinal anesthesia. Procedures were performed by the same surgeon. A 1:100,000 solution of adrenaline was infiltrated submucosally just above the dentate line. Mucosal stripping started just above dentate line and was taken as far proximal as possible into the intussuscepted rectum. In case of concomitant rectocele mucosa was resected asymmetrically at the site of rectocele in order to regain anatomical position of mucosa after the procedure as much as possible. Plication of the redundant rectal wall was performed with Vicryl stitches and mucosa-to-mucosa closure followed.

Fluids and analgesics were given after the procedure. Patients were observed for 4-6 hours and were then released home. Patients were asked to take notes on their day-to-day recovery using a special questionnaire. On follow-up at one and six weeks after the operation a Wexner Continence Scale questionnaire was filled and clinical examination was performed.

Long-term interview

At the time of our survey a telephone interview was performed by an independent observer. Patients were asked about their satisfaction with the procedure, long-term positive and negative effects on their lives and eventual subsequent surgical procedures for the rectal prolapse.

RESULTS

All 51 patients were female. The mean age at the time of the operation was 64.7 ± 12.5 years (range 35 to 90 years). Twelve patients (23.6%) had had previous hysterectomy, which in 6 cases (11.8%) was performed due to prolapse of the uterus, and 4 patients (7.8%) had had previous cystopectomy and/or vaginoplasty. Another 3 (5.9%) had previously been operated for hemorrhoids, out of which stapled hemorrhoidopexy, was performed in 1 case (1.9%), two patients (3.9%) had Milligan-Morgan operation. Two patients were previously diagnosed with Crohn’s disease and one ulcerative proctitis, in all cases the disease was in remission.

Average length of resected mucosa was 14.1 ± 1.7 cm (range 8 to 15 cm). In the majority of patients the postoperative recovery was uneventful.

In one case, patient had to be transferred to the hospital where CT scan was performed due to suspicion of intraoperative bowel perforation. Perforation was excluded and the procedure could be completed without laparotomy. Five patients needed postoperative referral to another hospital. In two of those cases referral was planned ahead of operation because patients were living alone and could not organize the care in the postoperative period. In two cases safety observation was necessary because dissection was made somewhat deep into the anal sphincter, during preparation. No patient required blood transfusion. In one case patient had a moderate bleeding from the anus, and had to be monitored during the night. Postoperative recovery for all 6 patients (5 transferred postoperatively and 1 needing CT scan) was uneventful.

### TABLE 2

**QUSTIONNAIRES SCORES AT 1 AND 6 WEEKS AFTER SURGERY**

<table>
<thead>
<tr>
<th>Points</th>
<th>At 1 week (36 questionnaires in total)</th>
<th>At 6 weeks (35 questionnaires in total)</th>
<th>At long-term follow-up (45 in total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>30 (86.5%)</td>
<td>29 (82.9%)</td>
<td>26 (57.8%)</td>
</tr>
<tr>
<td>1-5</td>
<td>0</td>
<td>0</td>
<td>7 (15.6%)</td>
</tr>
<tr>
<td>Wexner score</td>
<td>6-10 1 (2.7%)</td>
<td>2 (5.7%)</td>
<td>9 (20.0%)</td>
</tr>
<tr>
<td>11-15</td>
<td>2 (5.4%)</td>
<td>4 (11.4%)</td>
<td>2 (4.4%)</td>
</tr>
<tr>
<td>16-20</td>
<td>2 (5.4%)</td>
<td>0</td>
<td>1 (2.2%)</td>
</tr>
<tr>
<td>Symptom severity</td>
<td>0-1 18 (50.0%)</td>
<td>27 (77.1%)</td>
<td>/</td>
</tr>
<tr>
<td>Score Rating</td>
<td>2-3 13 (36.1%)</td>
<td>5 (14.3%)</td>
<td>/</td>
</tr>
<tr>
<td>System</td>
<td>&gt;4 5 (13.9%)</td>
<td>3 (8.6%)</td>
<td>/</td>
</tr>
</tbody>
</table>
and all were discharged from the hospital in the following 2 or 3 days.

One patient with concomitant sarcoidosis developed a serious complication – an anaerobic infection and sepsis developed after discharge from our institution. She was admitted to a tertiary medical institution and subsequently ended up with a permanent stoma (Figure 1). One patient was admitted to hospital for safety observation 3 days after the surgery due to bloody stools, no additional procedure was necessary, and she was discharged after 2 days.

At follow-up after 1 week 36 out of 50 patients had their questionnaires filled in. Patients reported having the first bowel movement 1.3±0.8 days after surgery and commencing all daily activities on the 3rd postoperative day (on average 3.1± 3.2 days). From the 3rd postoperative day onwards patients defecated on average 3 times daily (2.9±2.2 stools per day). Thirty-two patients (32/36, 88.9%) reported no loss of fecal continence after the procedure. VAS score fell from 5.08±2.65 on the day of the operation to 2.47±2.03 on 7th postoperative day. All wounds were healed at the time of the first follow-up and no purulent discharge or fecal impaction was observed.

At follow-up after 6 weeks questionnaires for 35 patients were filled in. Improvement in postoperative pain, pruritus and soiling was reported as shown in Table 1. Some patients reported somewhat aggravated incontinence especially to liquid stools and gas. For details see Tables 2 and 3. Patients resumed their normal daily activities 3.09 ± 3.26 days (range 2 to 21 days) after the surgery and returned to work in 16.0 ± 4.3 days, ranging from 10 to 21 days.

On examination at first follow-up postoperative narrowing at the level of anastomosis was found in 31 out of 50 patients (62.0%) and those patients were treated with anal dilators (Dilatan Plus Anal Dilatators, Sapimed). At 6 weeks follow-up narrowing had been mostly resolved. A persisting stenosis at the level of anastomosis developed in 7 cases (14.0%), and subsequent surgical dilatation under anesthesia was performed.

Our long-term follow-up was performed 51.4± 16.5 months after surgery, 45 of 51 patients were willing to participate in our inquiry. Four patients did not respond and 2 were deceased due to causes unrelated to rectal prolapse and subsequent surgery. Eighteen patients (40.0%) reported being very satisfied with operation, 11 (24.4%) were satisfied, 10 (22.2%) were only partly satisfied, and 6 (13.3%) were unsatisfied with the procedure at the end of the follow-up. Thirty three patients (73.3%) would recommend the procedure to someone with similar problems, 7 (15.6%) would not recommend it, and 5 (11.1%) could not decide.

Five patients needed additional surgical procedure due to recurrence of the internal rectal prolapse. Four patients (6.3%) underwent rectopexy later, due to persisting problems. In one case (2.1%) a Thiersch procedure was later performed due to age and comorbidities.

**DISCUSSION**

Treatment of rectal prolapse represents a complex and difficult task for both the surgeon and the patient. So far, there has been no general consensus on the best
Delorme's operation for internal rectal prolapse

There was no mortality observed. In our study no mortalities occurred due to surgical procedure. In literature an operative mortality for Delorme’s procedure regardless of modification is ranging from 0 to 3.5% 19. One major complication occurred, namely an acute anaerobic infection in patient with pre-existing morbidities. Moderate postoperative hemorrhage was observed in 3 patients and those needed hospitalization and safety observation for 3 days. Narrowing of anal canal at the level of anastomosis was common finding at the clinical examination at follow-up, but could mostly be resolved with the use of anal dilators. Stenosis requiring surgical intervention developed in 14.0% of cases. Published studies report stenosis occurring in 1.8% 22. At the end of the follow-up 44 (95.6%) patients reported acceptable transition of stool.

Published literature reports patients being hospitalized for 3 days on average before discharge 15. Majority of patients in our study were observed for 4-6 hours before being discharged. Six patients needed longer period of hospitalization, but only in 4 patients hospitalization was due to medical reasons. Our study shows that observation period can be safely shortened if the procedure is uneventful and if patients have support available at home.

Data also shows short period of absence from work. Patients reported needing on average 16 days of sick leave. Data on absence from work is absent from published literature.

Six patients reported persistent internal prolapse symptoms after the procedure and in 5 cases (9.8%) recurrence was observed. Recurrence rate found in our study is on the lower end of spectrum of recurrence rates found in literature, which are between 5.4% 2,16 and 32% 17.

CONCLUSION

Many surgical methods for treatment of internal rectal prolapse have been developed. Careful consideration of both the indications and concomitant diseases is necessary to achieve the best overall result. Our study shows that the Delorme’s procedure is feasible in an outpatient setting under spinal anesthesia, with reasonable complications and satisfactory outcome.

SUMMARY

The Delorme procedure is reported as a safe and effective treatment for internal rectal prolapse. It is performed under spinal anesthesia, with reasonable complications and satisfactory outcome. Our study shows that recurrence rate found in our study is on the lower end of spectrum of recurrence rates found in literature, which are between 5.4% 2,16 and 32% 17.

REFERENCES


