ORIGINAL CONTRIBUTION

Long-term Results After Stapled Hemorrhoidopexy: A Prospective Study With a 6-Year Follow-up

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BACKGROUND: Stapled hemorrhoidopexy was introduced in 1998 as a new technique for treating advanced hemorrhoidal disease. Despite a clear perioperative advantage regarding pain and patient comfort, literature reviews indicate a higher recurrence rate for stapled hemorrhoidopexy than for conventional techniques.

OBJECTIVE: Our aim was to present long-term on the use of this technique.

DESIGN: Observational study.

SETTING AND PATIENTS: Consecutive patients with hemorrhoid prolapse treated at a regional surgical center from May 27, 1999, through December 31, 2003.

INTERVENTION: Stapled hemorrhoidopexy with accompanying resection of residual hemorrhoidal nodules if necessary.

MAIN OUTCOME MEASURES: Standardized patient questionnaire regarding satisfaction, resolution of symptoms, and performance of further interventions.

RESULTS: Of 257 patients (82 female, 175 male, mean age 53 ± 13 years) undergoing stapled hemorrhoidopexy, follow-up data were available for 224 patients (87.2%) with a mean duration of 6.3 ± 1.2 years. Of these, 195 patients (87.1%) were satisfied or very satisfied with the operation outcome; 19 patients (8.5%) were moderately satisfied; and 10 (4.5%) were not satisfied. Regarding preoperative anal symptoms, complete relief was observed in 179 patients (80.6%) for prolapse, 172 (77.5%) for bleeding, 139 (85.3%) for mucus discharge, 139 (78.5%) for burning sensation, and 115 (75.5%) for itching. Considering all recorded symptoms, 194 patients (86.6%) reported absence and or an improvement at follow-up. Twelve patients (5.4%) reported newly developed incontinence in the sense of urge symptoms; 42 patients out of 51 patients (82.4%) with preexisting incontinence reported an improvement. Local or topical retreatment (ointment, suppositories, sclerotherapy) was performed in 48 patients (21.4%). Reoperation for residual or newly developed hemorrhoidal nodules was needed in 8 patients (3.6%).

LIMITATIONS: Lack of a comparative group.

CONCLUSION: Our long-term results show that this strategy for stapled hemorrhoidopexy can achieve a high level of patient satisfaction and symptom control, with a low rate of reoperation for recurrent hemorrhoidal symptoms.

KEY WORDS: Hemorrhoidal disease; Bleeding; Prolapse; Stapled hemorrhoidopexy; Incontinence; Long-term results.

Stapled hemorrhoidopexy was introduced in 1998 as a gentle new technique for treating advanced hemorrhoidal disease.[1] Unlike conventional surgical techniques, this procedure did not aim to remove but to reposition the prolapsed hemorrhoidal tissue. In several studies, this procedure was reported to offer advantages with regard to postoperative pain and length of in-patient

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stay.[2–7] However, recent reviews note a higher rate of recurrence with stapled hemorrhoidopexy than with conventional methods in short-term follow-up.[8–12] In our hospital, stapled hemorrhoidopexy was previously established as an integral part of hemorrhoid treatment in 1999. This circumstance provided the impetus for presenting our experiences and long-term results with this surgical method.

PATIENTS AND METHODS

The study included consecutive patients who underwent stapled hemorrhoidopexy at our institution from May 27, 1999, through December 31, 2003. The indication for the procedure was nonfixed circumferential hemorrhoid prolapse.

Perioperative data were collected retrospectively for patients treated before September 2001 and prospectively for patients treated after this date. The following variables were recorded: age, gender, grade of hemorrhoidal disease, previous treatment, local symptoms, continence disorders (classified according to Parks[13] as grade 1, incontinence of gas; grade 2, incontinence of gas and liquid stool; or grade 3, incontinence of gas, liquid, and solid stool), and defecatory disorders such as obstructed defecation or slow-transit constipation. When necessary, slow-transit constipation was confirmed by measurement of intestinal transit time with the Hinton test,[14] for which patients received pellets with 10 markers each from days 1 to 6, and an x-ray of the abdomen on day 7. A passage time of more than 60 hours led to the diagnosis of slow-transit constipation.

The operating procedure was performed with a PPH-01 stapler from Ethicon Endo-Surgery (Norderstedt, Germany), as described in the literature.[1] The operations were performed under general anesthesia or spinal anesthesia. Intraoperative colonoscopy was offered to all patients who had not undergone recent colonic diagnostic examination. In the prospectively evaluated patients, pain intensity was assessed on a visual analog scale from 1 to 10.

A standardized follow-up questionnaire was mailed to patients or filled out at an outpatient clinic visit. If the questionnaire was not returned, patients were asked to complete the questionnaire in a telephone interview. The questionnaire contained items concerning satisfaction, current symptoms, fecal continence, defecatory disorders, therapeutic interventions for recurrence, and questions regarding patients' retrospective assessment of the painfulness of the stapled hemorrhoidopexy procedure.

RESULTS

Patient Characteristics

Stapled hemorrhoidopexy was performed in 257 consecutive patients with grade III hemorrhoids: 175 men, 82 women; mean age (± SD), 53 ± 13 (range, 19–88) years. This group included approximately 70% of all patients undergoing surgical intervention for grade III hemorrhoidal disease in our hospital. The perioperative data were collected retrospectively for 78 patients (30.4%) treated before September 2001 and prospectively for 179 patients (69.6%) treated after that date.

Of the total 257 patients, 70 (27.2%) had been previously treated only by topical measures (ointments or suppositories); 168 patients (65.4%) had previously undergone sclerotherapy; 6 patients (2.3%) had undergone minor surgical procedures such as hemorrhoidal artery ligation, rubber band ligation, or thrombectomy; and 13 patients (5.1%) had undergone a previous hemorrhoid operation (Parks or Milligan-Morgan procedure in 12, stapled hemorrhoidopexy in 1 patient). Local symptoms noted were intermittent anal bleeding or prolapse of hemorrhoidal tissue or anal mucosa in 255 patients (99.2%), mucus discharge in 179 (69.5%), burning sensation in 198 (77.0%), and itching in 129 patients (50.2%). A total of 63 patients (24.5%) had continence disorders (Parks classification grade 1 in 50 (19.5%), grade 2 in 12 (4.7%), and grade 3 in 1 patient (0.4%). There was evidence of a defecatory disorder in 103 patients (40.1%): 93 patients (36.2%) had signs of obstructive defecation disorder (increased straining, incomplete evacuation) and 10 patients (3.9%) had slow transit constipation confirmed by the Hinton test.

TABLE 1. Accompanying procedures performed during anesthesia in 257 patients undergoing stapled hemorrhoidopexy

Procedure	*n (%)*
Additional hemorrhoidal surgery	
Ligation	7 (2.7)
Conventional resection	11 (4.3)
Anal tag removal	50 (19.5)
Fissurectomy	4 (1.6)
Transanal tumor resection	6 (2.3)
Prostate punch biopsy	2 (0.8)
Colonoscopy	169 (65.8)
With polypectomy	11 (4.3)

Perioperative Period

The mean operating time was 17 ± 7 minutes. Of the 257 operations, 238 (92.6%) were performed under general anesthesia, with only 19 (7.4%) performed under spinal anesthesia. Procedures accompanying the stapled hemorrhoidopexy are listed in Table 1. In 3 patients (1.2%), the row of staples had to be oversewn with interrupted sutures because of partial dehiscence. In 18 patients (7.0%), residual hemorrhoidal nodules that had not been perfectly repositioned were removed by conventional resection (Table 1). No other intraoperative complications were observed.

TABLE 2. Postoperative urinary retention in 257 patients undergoing stapled hemorrhoidopexy

	Medication[a] *n (%)*	*Catheter*[b] *n (%)*
Men (n = 175)	18 (10.3)	19 (10.9)
Women (n = 82)	7 (8.5)	7 (8.5)
All (n = 257)	25 (9.7)	26 (10.1)

[a]Single dose of tamsulosin.
[b]Placement of indwelling catheter for 1 night or more.

Bleeding complications requiring surgical intervention occurred in 10 patients (3.9%). A total of 51 patients (19.8%) had urinary retention (Table 2).

Reoperations in the early postoperative phase up to 3 months were required in 6 patients (2.7%): 1 male patient had hemorrhoidal thrombosis on postoperative day 12, 1 female patient received ventral mucosectomy because of incomplete repositioning, in 1 female patient the ventral staple was split after 3 weeks because of a defecatory disorder, and 3 patients had anal revision because of local pain. Two of the early reoperations involved conventional resection of residual, imperfectly repositioned nodules. No relevant wound infections or stenoses of the row of staples were observed.

All patients received background analgesia with a nonsteroidal anti-inflammatory drug (e.g., diclofenac). Additional consumption of analgesics (metamizole, tramadol, or possibly piritramide) was low: 170 patients (66%) managed without additional analgesics on the first postoperative day, and 203 (79%) on the second postoperative day (Fig. 2).

In the 179 prospectively evaluated patients, the mean pain intensity score on the visual analog scale was 4.7 ± 2.4 on the day of the operation, 3.0 ± 1.0 on the first postoperative day, and 2.3 ± 1.5 on the second postoperative day. An intraoperative colonoscopy (air insufflation) had no influence on the pain score, whereas patients with an accompanying anal procedure (extensive anal tag removal, fissurectomy, or conventional resection of residual hemorrhoidal nodules) tended to have higher pain scores than those without (day 0, 5.2 vs 4.5; day 2, 2.5 vs 2.1). The mean inpatient hospital stay was 4.2 ± 1.7 (1–14) days. The length of hospital stay was related to changes in the German hospital financing system, which after 2003 paid for a stay of 2 nights for this surgical category according to the DRG-system, whereas previously the hospital was paid for each day at the hospital.

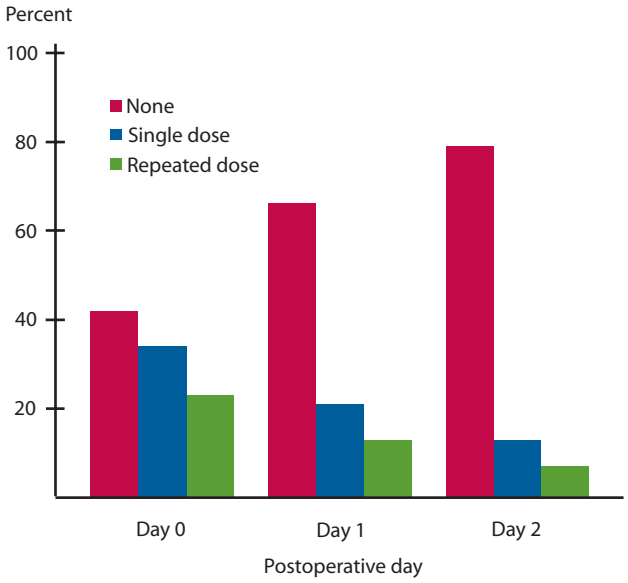

FIGURE 2. Perioperative analgesic consumption (additional opioid/metamizole analgesia requirement) in addition to background analgesia with a nonsteroidal anti-inflammatory drug. Data were collected retrospectively for 78 patients and prospectively for 179 patients.

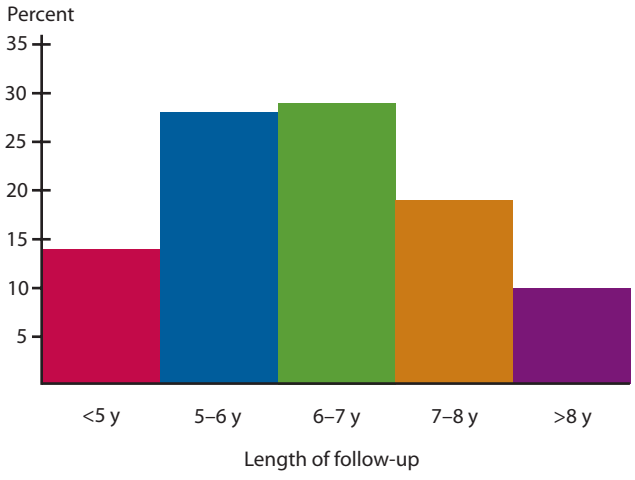

FIGURE 1. Length of follow-up for 224 patients after stapled hemorrhoidopexy for advanced hemorrhoidal disease.

Follow-up Evaluation

A total of 224 (87.2%) of the 257 patients were included in the follow-up analyses. Of these, 89 patients (39.7%) returned the questionnaire by mail, 81 (36.2%) completed the questionnaire at a clinic visit, and 54 patients (24.1%) completed a phone interview. Follow-up data were not available for 33 patients (12.8%): 8 patients died of an unrelated cause, and 25 patients had moved away without a forwarding address. The mean follow-up period was 6.3 ± 1.2 (median, 6; range, 4.2–9.5) years (Fig. 1).

Of the 224 patients included in the follow-up evaluation, 141 (62.9%) stated that they were "very satisfied" with the outcome, 54 patients (24.1%) reported being "satisfied," 19 patients (8.5%) were only moderately satisfied, and 10 patients (4.5%) were dissatisfied. The relationship between satisfaction and residual symptoms or reintervention is shown in Table 3.

TABLE 3. Number of patients with residual symptoms or reintervention in relation to degree of satisfaction with the surgical procedure

	Very satisfied n = 141	*Satisfied n = 54*	*Moderately satisfied n = 19*	*Dissatisfied n = 10*
Incontinence				
Worse	0	1/54 (1.9)	2/19 (10.5)	1/10 (10.0)
Newly developed	4/141 (2.8)	3/54 (5.6)	2/19 (10.5)	2/10 (20.0)
Defecation disorder				
Worse	1/141 (0.7)	1/54 (1.9)	1/19 (5.3)	1/10 (10.0)
Newly developed	0	3/54 (5.6)	0	0
Nonoperative treatment for hemorrhoidal symptoms	9/141 (6.3)	28/54 (51.9)	10/19 (52.6)	3/10 (30.0)
Surgery				
Hemorrhoidal	1/141 (0.7)	4/54 (7.4)	1/19 (5.3)	2/10 (20.0)
Anal tags	2/141 (1.4)	3/54 (5.6)	1/19 (5.3)	1/10 (10.0)
Other	1/141 (0.7)	4/54 (7.4)	0	0
Symptoms (unchanged or worse)				
Bleeding	0/141	0/53	1/18 (5.6)	1/10 (10.0)
Prolapse	1/140 (0.7)	0/53	2/19 (10.5)	5/10 (50.0)
Mucus discharge	0/109	1/34 (2.9)	0/14	2/6 (33.0)
Burning	0/113	0/38	1/19 (5.3)	2/9 (22.2)
Itching	0/97	1/36 (2.8)	2/13 (15.4)	0/6
Symptoms (newly developed)				
Bleeding	0/141	1/53 (1.9)	2/18 (11.1)	2/10 (20.0)
Prolapse	1/140 (0.7)	0/53	6/19 (31.6)	4/10 (40.0)
Mucus discharge	1/109 (0.9)	0/34	1/14 (0.7)	0/6
Burning	0/113	2/38 (5.2)	2/19 (10.5)	2/9 (22.2)
Itching	2/97 (2.1)	3/36 (8.3)	1/13 (7.7)	0/6

Data are number of patients with residual symptoms or reintervention as a proportion of patients for whom data were available in each satisfaction category, with percentages in parentheses.

Most preoperative hemorrhoidal problems had been resolved at follow-up (Table 4). Overall, approximately 80% of patients with bleeding or prolapse before surgery were completely symptom-free at follow-up, and approximately 15% showed improvement. In patients with both bleeding and prolapse, 69.9% were completely symptom-free and 90.2% were asymptomatic or improved at follow-up. Taking into account all the recorded hemorrhoidal symptoms, 194 (86.6%) of the patients were symptom-free or improved at follow-up.

Of the 224 patients for whom follow-up data were available, 52 patients (23.2%) had fecal continence problems: Preoperative problems had improved in 42 patients (18.8% of the follow-up group), remained unchanged in 6 patients (2.7%), and had worsened in 4 patients (1.8%). New problems, mainly urge incontinence, developed in 11 patients (4.9%). With regard to defecation disorders, 132 patients (58.9%) had no problems. A total of 92 (41.1%) patients had preexisting disorders, which had improved in 62 patients (27.7% of the follow-up group), remained unchanged in 26 (11.6%), and worsened in 4 (1.8%). Three patients (1.3%) reported a newly developed defecatory disorder. No anal stenosis was detected in any of these cases. One additional female patient could be cured by cutting the ventral staple line in a rectocele.

Follow-up evaluations showed that repeat hemorrhoid operations had been performed in a total of 8 (3.6%) of the 224 patients. In addition to the 2 early reoperations, 5 repeat hemorrhoid operations involved conventional resection of residual, imperfectly repositioned nodules between 2 and 4 years after the first operation, and 1 case involved repeated stapled hemorrhoidopexy 4 years after the first procedure in a mentally disabled patient with a severe defecatory disorder, because of a recurrent prolapse

TABLE 4. Postoperative hemorrhoidal symptoms at long-term follow-up in relation to preoperative status

	Postoperative symptoms, n (%)				
Preoperative symptoms	*None*	*Improved*	*Unchanged*	*Worse*	*Newly developed*
Bleeding (n = 222)	179 (80.6)	37 (16.7)	2 (0.9)	0	4 (1.8)
Prolapse (n = 222)	172 (77.5)	30 (13.5)	8 (3.6)	0	12 (5.4)
Mucus discharge (n = 163)	139 (85.3)	19 (11.7)	2 (1.2)	1 (0.6)	2 (1.2)
Burning sensation (n = 177)	139 (78.5)	29 (16.4)	2 (1.1)	1 (0.6)	6 (3.4)
Itching (n = 152)	115 (75.7)	28 (18.4)	3 (2.0)	0	6 (3.9)

caused by excessive straining. Secondary removal of anal skin tags was performed in 7 patients (3.1%). Four other patients had another anal operation unrelated to the previous operation during the follow-up observation period (fissurectomy in 3, abscess excision in 1). Reapplication of topical or local ointments, suppositories, or intermittent sclerotherapy was required for another 50 patients (22.3%).

Of the 224 patients asked at follow-up to evaluate their remembered postoperative pain experience, 52 (23.2%) reported not having experienced any pain, and pain severity was rated as mild in 117 (52.2%), more severe in 45 (20.1%), and "almost unbearable" in 10 patients (4.5%). These data were consistent with the pain scores recorded on the visual analog scale during the early postoperative period: The mean pain score on the second postoperative day was 1.7 for those who retrospectively reported having had no pain, 1.9 for those who reported having had mild pain, 2.7 for those with severe pain, and 3.6 for those who reported very severe pain.

The mean period of incapacity for work from the day of the operation was 18.7 $\pm$ 13.4 (median, 15; range, 3–106) days.

DISCUSSION

An advantage in regard to perioperative pain and patient comfort has been found for stapled hemorrhoidopexy compared with other surgical methods in numerous randomized trials.[9–12] However, in 2004, Nisar et al[15] pointed out the limited long-term results with stapled hemorrhoidopexy and declared that conventional hemorrhoid surgery remained the "gold standard" for management of hemorrhoids. Stapled hemorrhoidopexy was rated as less effective than hemorrhoidectomy, with its advantage lying mainly in the lower intensity of perioperative pain. Despite the advantages of stapled hemorrhoidopexy in relation to postoperative pain, operating time, and faster convalescence, numerous studies found higher rates of reintervention and recurrent prolapse.[8,10,12,16–18] However, such reviews have provoked some criticism in the literature.[19]

The extensive discussion of stapled hemorrhoidopexy has also been stimulated by numerous publications concerning complications. A collection of adverse events after hemorrhoid operations, which was published in 2006,[20] mentioned 7 cases of retroperitoneal sepsis after stapled hemorrhoidopexy, 1 with a fatal outcome. This is undoubtedly a procedure that makes high technical demands on the surgeon.[21,22] Notably, incontinence—the complication most feared by patients—has been reported in 0% to 28% of patients after stapled hemorrhoidopexy.[23] Reoperations described in the literature mainly occurred the immediate postoperative period.[24] Although a high number of patients with urge incontinence and persistent pain have been reported after stapled hemorrhoidopexy,[25] a more recent report[26] found these problems to be generally transient.

In our patient population, the complication rate for stapled hemorrhoidopexy was low. Although the overall rates for rebleeding and urinary retention for the entire study appear relatively high, it should be noted that the study period included the learning curves of the responsible surgeons. Evaluation of patients who underwent this operation between 2007 and 2009 showed that improvements in the operating technique and perioperative analgesia greatly reduced the number of patients with urinary retention to 10% (6% requiring catheter placement, 4% medication; data not shown). No life-threatening complications were observed, and the rate of early reoperations was low at 2.7%, including patients with reintervention for incomplete repositioning or anal pain.

Our study also showed a low pain intensity associated with stapled hemorrhoidopexy. It is interesting to note that, although 75% of patients retrospectively reported having had only mild pain, 4.5% remembered very severe pain, which was also verified by the pain scores recorded perioperatively. Intensive pain medication therefore seems to be essential to meet the needs of some patients. However, pain sensation is a highly subjective feeling. This is reflected in the wide variation in the time to resume work, which was ranged from 3 to 106 days after discharge.

Equally interesting are the findings relating to fecal continence: 4.5% of patients complained of persistent urge incontinence, which is consistent with the experiences of other authors.[26] At the same time, however, a large number of patients with preexisting incontinence reported an improvement. The removal of an internal mucosal prolapse by the mucosal resection may have played a decisive role in this improvement. Similar results were found for defecation, which were consistent with the report by Bona et al[27] regarding outlet obstruction.

The available publications and resulting reviews of stapled hemorrhoidopexy largely deal with short-term results (up to 2 years postoperatively), and long-term results continue to be rare. Jongen et al[28] reported a long-term reoperation rate of 3.4% for persistence or recurrence of hemorrhoidal prolapse. In a study of 216 patients in which 193 (89%) were followed for a median period of 28 months, Fuegisthaler et al[29] observed a high satisfaction rate of 89%. However, these authors pointed out a very high rate of residual symptoms: persistent prolapse in 24%, fecal urgency in 40%, pain in 25%, and local discomfort in 38%, with a reoperation rate of 5%. The main symptoms had disappeared in 66% and improved in 28%. A Danish publication[30] in 258 patients with a median follow-up of 34 months also described high patient satisfaction, but no further details are given. Interventions because of recurrence were mainly performed in the first year: 12% of the patients underwent repeat stapled hemorrhoidopexy and

another 14.7% had conventional resection. However, the crucial weakness of this study is the low clinical follow-up rate: although 48% of the patients could still be reached after 2 years, the rate fell to 26.5% after 5 years and was hence unacceptable for scientific purposes. Picchio et al[31] contacted 74 patients by phone or clinic visit for 5-year follow-up of a randomized study comparing stapled hemorrhoidopexy with the Milligan-Morgan operation. No differences in pain, bleeding, or patient satisfaction were found. In 2008, Bona et al[27] described a reoperation rate for patients with early postoperative bleeding of only 1%, with an overall reoperation rate of 4.2% after a median follow-up of 6.1 year. Ceci et al[32] contacted 291 patients with a mean follow-up of 73 months after stapled hemorrhoidopexy and found that 65.3% of patients were asymptomatic, 25% had mild symptoms, and 9.3% had pronounced symptoms. Recurrence was diagnosed in 18.2%. The overall reoperation rate was 7.2%, and the rate was greatly higher in patients who entered the study with fourth-degree hemorrhoids than in those with third-degree hemorrhoids (13.7% vs 2.4%, $P = .001$).

Against this background, the present study—with a follow-up time of 6.3 years and a follow-up rate of 87.2% (224 patients)—is to our knowledge the longest and most extensive long-term study of stapled hemorrhoidopexy yet undertaken. We found a high patient satisfaction rate of nearly 90%. The overall reoperation rate of 3.6% was low. Reoperation was mainly due to residual prolapsed segments, particularly ventrally, that were not adequately repositioned by the mucosal resection. This technical problem was also evident in the relatively high proportion (7.8%) of additional conventional procedures required for residual hemorrhoidal segments during the first operation, at the expense of higher pain intensity. The advantage of this strategy in preventing recurrence is supported by a recent publication by Garg.[33] Indeed, some so-called recurrences may be caused by technical problems with the operation. For example, in both of our patients who underwent repeated hemorrhoidopexy, the position of the staple line was high, which might have caused insufficient repositioning of the hemorrhoidal tissue. A similar problem is posed by perianal skin tags, which are regarded by some authors as a relative contraindication for stapled hemorrhoidopexy because they need a separate resection or are interpreted as false recurrence.[28,34] In our patient population, removal of anal tags was performed simultaneously with stapled hemorrhoidopexy in 19.5% of the operations. In some patients, this also led to higher intensity of postoperative pain. However, only 2.7% of patients subsequently required secondary anal tag removal, mainly performed under local anesthesia.

The problem of surgical intervention for recurrence is inadequately tackled in the literature. A recent meta-analysis[7] dealing with the problem of differentiation between residual skin tags and recurrence concluded that high recurrence rates reported in the literature are often due to misidentification of residual skin tags. Further reviews[8,9,18] report a numerically significantly higher reoperation rate after stapled hemorrhoidopexy than after Milligan-Morgan resection. Nisar et al[15] described a significantly higher rate of recurrent prolapse for stapled hemorrhoidopexy than for Milligan-Morgan (third-degree, 11% vs 0%; fourth-degree, 50% vs 0%), but indicated no correlation with revision operations or renewed conservative therapeutic measures. In the randomized studies, follow-up data regarding reoperations are often not given, although such data are contained in some reports.[35,36] In their study of patients with fourth-degree hemorrhoids Ortiz et al[35] reported recurrence of prolapse in 8 of 15 patients, 5 of whom underwent conventional reoperation. The tendency is to regard this outcome as a technical failure of stapled hemorrhoidopexy. However, the total number of reoperations comprises a large number of diseases which are attributable partially to stapled hemorrhoidopexy but also to other changes. This makes it difficult to differentiate clearly between reoperations caused by technically inadequate repositioning, intentional or inadvertent failure to eliminate changes, or newly developed changes following optimum treatment.

Overall, good long-term results have been achieved with stapled hemorrhoidopexy. Some of the cases in which symptoms were poorly controlled are likely due to technical problems with the operation, as outlined above (position of the row of staples, inadequate repositioning of individual segments, residual anal tags). Hence the surgeon's experience plays an important role in determining the outcome. Although no reference group with conventional results was available for comparison in the present study, our results were similar to those for Ferguson hemorrhoidectomy[37] at the expense of higher perioperative pain intensity.

Patient satisfaction is a multifactorial criterion and depends not only on perioperative progress but also on subjective perception. We found that the "success" of the operation does not necessarily determine whether patients are satisfied or dissatisfied (Table 3). A wide variety of factors probably play a role. It is difficult to quote a "recurrence rate" on the basis of the data collected. For instance, the recurrence rate can be given as the overall reoperation rate (8 patients, 3.6%), but also as the percentage of patients with residual symptoms in regard to bleeding and prolapse (26 patients, 11.6%).

CONCLUSION

Nearly 90% of our patients were satisfied with the outcome of their treatment. Complete freedom from typical hemorrhoidal symptoms was achieved in around 80% of patients and a further 15% found their symptoms improved. These data are similar or even better than those

presented from large series of patients treated with conventional surgical techniques. We conclude that stapled hemorrhoidopexy, with accompanying conventional resection of insufficiently lifted hemorrhoidal segments and removal of large tags during the operation, can achieve a high level of patient satisfaction and symptom control, with a low rate of reoperation for recurrent hemorrhoidal symptoms.

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