



SURGICAL APPROACH AND OUTCOMES AFTER HAEMORRHOIDECTOMY

Konstantin Kostov

Department of General, Visceral and Emergency Surgery, UMHATEM “N. I. Pirogov” – Sofia, Bulgaria.

SUMMARY

Purpose: The present study aims to compare and analyze the results of conventional and stapled haemorrhoidectomy in patients with haemorrhoidal disease undergoing operative treatment in UMHATEM “N.I.Pirogov” and to determine the accurate surgical approach.

Material and Methods: 207 patients with the haemorrhoidal disease (3rd and 4th degree) were operated on for a period of one year from 1.1.2015 to 31.12.2015 in the Department of General, Visceral and Emergency surgery of the University Hospital “Pirogov”. In 106 of these stapled haemorrhoidectomy was performed, with the remaining 101- conventional haemorrhoidectomy was performed. Out of the haemorrhoidectomy with a stapler (group S), women were 49 (46.23%), men 57 (53.77%). In the conventional surgery (group C), women were 41 (40.59%), men 60 (59.41%). The age in this retrospective analysis varied from 18 to 81 (average 46 years).

Results: From group S there was no post-operative pain reported in 32 (30.19%) patients, 64 (60.38%) complained of moderate pain and 10 (9.43%) of significant pain. From Group C 21 (20.79%) had no post-operative pain, 54 (53.47%) complained of moderate pain and 26 (25.74%) of significant pain. Regarding postoperative haemorrhage from group S, it was minimal to absent in 85.85% (91 patients) of the cases and significant in 15 patients (14.15%). From group C, 68 patients (67.33%) had minimal to absent haemorrhage and 33(32.67%) with significant haemorrhage. Group S morbidity was 9.43% - 10 patients (indication for prolapse, fissure and 2 cases of anal stenosis due to improper manipulation with the stapler). From group C the incidence was 14 patients (13.86%). There were no deaths in both groups-mortality-0%.

Conclusion: Compared to literature data, analyzed results indicate that stapled hemorrhoidectomy is the optimal surgical approach to reduce postoperative pain and early recovery to normal activity.

Keywords: haemorrhoidal disease, haemorrhage, stapled haemorrhoidectomy, conventional haemorrhoidectomy, surgical approach,

INTRODUCTION

Haemorrhoids are vascular structures located and underlying the distal rectal mucosa and the anoderm [1].

It is estimated that about 12% of the population is suffering from a haemorrhoidal disease [2, 3]. It is a common illness in pregnancy [4, 5]. The maximum incidence is between 45 and 65 years [6].

Several factors have been verified to inflame this disease. These are a sedentary lifestyle, advanced age, family history, constipation, or chronic diarrhea, alcohol abuse, or pathological conditions such as cirrhosis. Patients demonstrate symptoms like defecation bleeding, discomfort, or irritation. Symptomatic haemorrhagic nodes located proximal to the linea dentata are called internal hemorrhoids and cause bleeding and prolapse. Sometimes anal symptoms are secondary to other conditions -cirrhosis, colon irritable, and another sickness. Internal hemorrhoids are generally not painful. But they tend to prolapse or may present with bleeding per rectum. When the patient presents with anal pain and discomfort, then other pathology must be suspected and deserved detailed investigations. Almost one-fifth of the patients also have anal fissures along with hemorrhoids. Only internal hemorrhoids lead to painless bleeding. This kind of bleeding is bright red color because it is arterial. If in the patient's history has rectal bleeding some investigations should be done to suspect other causes of rectal bleeding. Pain is the predominant symptom of external hemorrhoids which are thrombosed. The pain is caused by the nerves of the anoderm.

There is a rule that ligation is not advised for the treatment of external hemorrhoids.

Symptomatic hemorrhoids are usually similar to skin tags. The skin tag is a kind of fibrotic skin. It is present at the anal verge and is a result of an external hemorrhoid that was thrombosed.

Most of the patients with verified haemorrhoids are at no risk of anal carcinoma.

According to the literature, about 10-20% of patients are in need of surgical intervention. Haemorrhoidectomy with a stapler is a relatively innovative method in the surgical treatment of haemorrhoids. Spasm of the inter-

nal anal sphincter is one of the supposed causes of pain after haemorrhoidectomy. Stapled haemorrhoidectomy avoids tissue damage in the sensitive perianal area, thus significantly reducing post-operative pain and speeding up recovery and return to normal activities. Postoperative pain is intensive in conventional haemorrhoidectomy because of the resection of the sensitive anoderm.

The Longo technique, defined in 1993, is recommended for the treatment of haemorrhoidal disease. Also called circumferential musosectomy or circular anopexy, it is based on the Lehur technique applied for the treatment of anorectal varices in patients with portal hypertension. It has become rapidly popular in Europe and all over the world.

The Longo procedure is expressed by resection of the prolapsed mucosa and ligation of the internal hemorrhoidal pedicles. This intervention is completed within the non-sensorial zone of the rectum above the dentate line. The anal canal is protected and there is no skin injury or to the sphincter system. Surgery can be realized under general or locoregional anesthesia or with a perineal block.

A single-use circular clamp measuring more than 31 mm in diameter is used with vascular staples closing at 1-mm thickness to ensure good hemostasis. The instrumentation set includes a circular anal dilator, a suture anoscope, a circular stapler, and a suture threader.

Conventional techniques, e.g. Milligan-Morgan haemorrhoidectomy, are considered to be particularly painful. With the Longo technique, patients experience less pain postoperatively and at defecation, making it an important alternative. Consumption of analgesics is reduced and hospitalization is shorter with a more rapid return to occupational activities. This procedure does, however, involve risk and serious complications have been reported in the literature

The present study aims to compare and analyze the results of conventional and stapled haemorrhoidectomy in patients with haemorrhoidal disease undergoing operative treatment and to determine the accurate surgical approach.

MATERIAL AND METHODS

For a one-year period (from 01.01.2018 to 01.01.2019) 189 patients with the haemorrhoidal disease (3rd and 4th degree) were operated on the Department of General, Visceral and Emergency surgery of the University Hospital "Pirogov". In 112 (59.26%) of this stapled haemorrhoidectomy was performed, with the remaining 77 (40.74%)- conventional haemorrhoidectomy was performed.

Table 1. Mode of surgery

Mode of surgery	189 (100%)
stapled haemorrhoidectomy	112 (59.26%)
conventional haemorrhoidectomy	77 (40.74%)

Out of the haemorrhoidectomy with a stapler (group I), women were 49 (43.75%), men 63 (56.25%).

Table 2. Gender distribution of stapled haemorrhoidectomy group (I)

gender distribution of stapled haemorrhoidectomy (I)	112 (100%)
women	49 (43.75%)
men	63 (56.25%)

In conventional surgery (group II), women were 36 (46.75%), men 41 (53.25%).

Table 3. Gender distribution of conventional haemorrhoidectomy group (II)

Gender distribution of conventional haemorrhoidectomy (II)	77 (100%)
women	36 (46.75%)
men	41 (53.25%)

Specifications analyzed in this study were age, gender, clinical symptoms, mode of treatment and morbidity.

The age in this retrospective research varied from 18 to 83 (average of 48.5 years).

Patients under 18 years of age with first and second degree of haemorrhoidal disease, pregnancy, portal hypertension, cirrhosis, and coagulopathy were excluded from the study.

The main symptoms reported include bleeding per rectum, anal discomfort and pain, prolapse, constipation, and pruritus.

Diagnoses have been verified through digital rectal examination, proctoscopy, and fibro colonoscopy (FCS).

Conclusions from all patients hospitalized with the haemorrhoidal disease were carefully systematized, analyzed and summarized.

The results were summarized by monitoring the morbidity up to one-month post-discharge.

RESULTS

The anesthesia for the two groups in more than 93% of the cases was spinal, in the remaining patients- local or endotracheal.

Group I included 112 patients who underwent stapled haemorrhoidectomy, group II-77 patients who received a classic approach-conventional haemorrhoidectomy.

The most commonly affected age groups were their fourth, fifth and sixth decades.

The male gender predominated.

From group I, 67 patients had third-degree hemorrhoids, 35th with fourth-degree. Respectively, from group II-48-third degree and 29-fourth degree.

From group, I absent postoperative pain was reported in 32 (30.19%) patients, moderate pain in 64 (60.38%), and significant pain in 10 (9.43%).

Table 4. Postoperative pain (group I)

Postoperative pain (group I)	112 (100%)
Without pain (discomfort only)	27 (24.11%)
Moderate pain	68 (60.71%)
Significant pain	17 (15.18%)

From Group II 9 (11.69%) were without post-operative pain, 46 (59.74%) with moderate pain and 22 (28.57%) with significant pain.

Table 5. Postoperative pain (group II)

Postoperative pain (group II)	77 (100%)
Without pain (discomfort only)	9 (11.69%)
Moderate pain	46 (59.74%)
Significant pain	22 (28.57%)

Regarding postoperative haemorrhage from group I it was minimal to absent - 85.85% (94 patients) of cases and significant in 15 patients (14.15%).

Table 6. Postoperative haemorrhage (group I)

Postoperative haemorrhage (group I)	112 (100%)
Minimal to absent	94 (83.93%)
Significant	18 (16.07%)

From group II, 68 patients (67.33%) had minimal to absent haemorrhage and 33(32.67%) with significant haemorrhage.

Table 7. Postoperative haemorrhage (group II)

Postoperative haemorrhage (group II)	77 (100%)
Minimal to absent	60 (77.93%)
Significant	17 (22.07%)

After stapled hemorrhoidectomy 13 patients (11.61%) complained of constipation, while those with the conventional operation were 24 (31.17%).

The majority of patients (81) from group I were discharged on the first postoperative day, while in the conventionally operated group 57 were discharged on the second postoperative day.

Morbidity from group I was 9.82% - 11 patients (indication for prolapse, fissure, and 2 cases of anal stenosis due to improper use of the stapler). In group II the incidence was 13 patients (16.89%).

Table 8. Morbidity rate

Morbidity rate	
Group I	60 (9.82%)
Group II	17 (16.89%)

There are no deaths in both groups. The mortality rate was 0%.

DISCUSSION

The present study represented the main differences in postoperative results between the two groups. Group I has a significant reduction in postoperative pain and in most cases, minimal to absent bleeding from the operative wound. This analysis reveals that stapled haemorrhoidectomy is a safe and reliable procedure. It is because of favorable results in the postoperative interval and minimized complications in patients with 3rd and 4th-grade hemorrhoids compared to conventional haemorrhoidectomy of Milligan-Morgan or Parks. This is explained by the fact that the haemorrhoidectomy with a stapler is performed over the linea dentata, far from the sensory zones of the anoderm. In conclusion, post-operative pain is reduced. In some of the cases, patients complain of minor pain if part of the sewing line encompasses linea dentata, but this was rare reports because the sewing line is at least 4-5 cm over it. Stapled haemorrhoidectomy has an expeditive recovery and a low rate of recurrences. It is known that conventional haemorrhoidectomy also has good results in recovery, but it is proven to have some drawbacks as it affects the skin of the perineum during the intervention. As a result, postoperative pain is intensive and the hospital stay is extended. This lead to increased hospital and non-hospital costs for analgesia, and recovery is slower. Recurrence rates are also at higher levels [7].

Follow-up ordinarily admits intense pain, hospital stay, and complications. Data from that is also in favor of group I.

For group I there was no postoperative pain in 27 (24.11%) patients, moderate pain in 68 (60.71%), and significant pain in 17 (15.18%). From Group II 9 (11.69%) were without post-operative pain, 46 (59.74%) with moderate pain, and 22 (28.57%) with significant pain. Regarding postoperative haemorrhage from group I it was minimal to absent - 85.85% (94 patients) of cases and significant in 15 patients (14.15%) From group II, 68 patients (67.33%) had minimal to absent haemorrhage, and 33(32.67%) with significant haemorrhage. The most expected cause of haemorrhage is arteriolar onward the staple line. This can result from a defective technique injuring the mucosa as observed in one of our patients, or by an inflammatory rejection of the staples when anopexy is performed during a period of anusitis. Topical treatment is usually required. Some techniques have been proposed to achieve haemostasis: Foley catheter compression, surgical suture, injection of epinephrine. Blood transfusion was required for some of the cases [8].

Electrocoagulation for haemostasis might also provoke the infection since necrotic perirectal tissue can lead to abscess formation. The result was a polymicrobial infection. Some of the surgery departments found that all of the suppurations observed developed in patients who were not given antibiotics. The elevated frequency of these infectious complications and their heaviness suggests that antibiotic prophylaxis might well be recommended.

The anal stricture was the postoperative late complication in our study. Rates have been reported to vary from 0.8% to 20%. Anal stricture could be provoked by two factors: residual sphincter hypertonia and scar tissue retraction. A deficiency of the staple line could be a possible risk factor. In our series, anal dilatation was sufficient to achieve a normal anal canal diameter and healing, but anoplasty in some was cases necessary [9].

Morbidity from group I was 9.82% - 11 patients (indication for prolapse, fissure, and 2 cases of anal stenosis

due to improper use of the stapler). In group II the incidence was 13 patients (16.89%). There are no deaths in both groups. These results correspond to other world major studies.

CONCLUSION

Analyzed results from the study, compared to literature data, demonstrate that stapled haemorrhoidectomy is an excellent surgical approach to reduced postoperative pain and early recovery to work.

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Address for correspondence:

Assoc. Prof. Konstantin Kostov, MD, PhD,
Surgical Clinic, UMHATEM "N. I. Pirogov"
21, Totleben Blvd., 1606 Sofia, Bulgaria.
E-mail: dr.k.kostov@gmail.com