ISSN 2231-2218

ASIAN JOURNAL OF PHARMACEUTICAL AND BIOLOGICAL RESEARCH

AJPBR

Indexed by:

ROAD Crossref Universal Impact Factor IMPACT FACTOR SEARCH

Asian journal of Pharmaceutical and biological research 2231-2218
http://www.ajpbr.org/
Universal IMPACT factor 7
SJIF 2022: 4.465
Volume 12 Issue 2
MAY-AUG. 2023

Asian journal of Pharmaceutical and biological research 2231-2218
http://www.ajpbr.org/
Universal IMPACT factor 7
SJIF 2022: 4.465
Volume 12 Issue 2
MAY-AUG. 2023

OPTIMIZATION OF THE TREATMENT METHOD FOR HEMORRHOIDECTOMY

Ushakov Sergey Nikolaevich, Gaziev Karim Umarovich
Bukhara State Medical Institute, Bukhara, Uzbekistan

Abstract. Prospective randomized study of 28 patients with III-IV staged hemorrhoids was performed. The main group of patients (n=14) was operated by an ultrasonic scalpel. The control group patients (n=14) were operated by standard Milligan-Morgan's method of hemorrhoidectomy. It was shown that ultrasonic scalpel gave us ability to decrease surgical intervention duration, intraoperative hemorrhage, pain level intensity in early postoperative period and to improve quality of patients' life and rehabilitation period duration.

Keywords: hemorrhoids, hemorrhoidectomy, ultrasonic scalpel, quality of life.

Introduction. Chronic hemorrhoids occupy a leading place in the structure of coloproctological diseases and its specific weight is at least 40% of their total number. This disease affects more than 10% of the adult population of the planet, and every third of them needs surgical treatment [1, 5].

The only way to radically treat patients with stage III-IV chronic hemorrhoids is surgical intervention - the elimination of three major hemorrhoids. Currently, a number of methods for performing hemorrhoidectomy have been proposed. In the Bukhara region, the method proposed in 1937 by E. Milligan and G. Morgan [1,4] is the most widespread. Despite the improvement of this technique, its results cannot meet modern requirements for a number of indicators. It is known that 34-41% of patients after Milligan-Morgan hemorrhoidectomy, regardless of the method of execution, have a pronounced pain syndrome, 15-26% - dysuric phenomena, 2% - bleeding, 2% - purulent-inflammatory complications. In the long term after surgery, strictures of the anal canal are formed in 2% of operated patients, and anal sphincter insufficiency is detected in 1% of patients [3].

Therefore, the search and study of new methods of surgical treatment of hemorrhoids is an urgent task. Currently, Uzbekistan and abroad are accumulating experience in using an ultrasound scalpel for hemorrhoidectomy surgery [2, 3, 6].

The aim of the study was to optimize the results of hemorrhoidectomy in patients with stage III-IV chronic hemorrhoids.

Materials and methods. In the period from September to December 2020 (3 months) a prospective randomized trial was conducted, including 28 patients with chronic hemorrhoids of stages III-IV (18 women and 10 men). The age of the patients ranged from 31 to 61 years (on average 47.5± 10.25 years).

The study included 2 groups of patients, randomized by random numbers using software. The obtained results were processed using methods of mathematical statistics. Statistical processing of the results was carried out on a personal computer using the StatSoft Statistica 6.0 application software package. Comparison of patient

groups and the obtained numerical characteristics of observations were analyzed by evaluating the accuracy of the result based on determining the confidence limits of the observed values. The method of calculating the average values and the average error for large and small samples by Student was used.

The main group included 12 patients (average age 47.25±11D 6 years) who underwent hemorrhoidectomy with a Harmonic ultrasound scalpel (Ethicon Endo-Surgery, USA).

The control group included 12 patients (mean age 47.8±12.5 years) who underwent a standard closed hemorrhoidectomy with restoration of the anal mucosa in the second modification of the State Scientific Center of Coloproctology.

There were no statistically significant differences in the study groups depending on gender, age and stage of the disease. In all cases, surgical interventions were performed under combined anesthesia - peridural anesthesia.

The technique of ultrasound hemorrhoidectomy was as follows: the patient's position on the table and the preparation of the intervention zone in the groups did not differ and were standard. The hemorrhoid node was seized at 3 o'clock with the Alice terminal and pulled outwards. To prevent bleeding, one suture was applied to the leg of the hemorrhoidal node with a "Vicril" thread - there was no narrowing of the anal canal, since the node was superimposed on the mucosa above the anorectal line. Then the perianal skin was dissected with an ellipsoid incision. Then, step by step, the external and internal hemorrhoids were excised from the outside to the inside with an ultrasonic scalpel in a single block, alternately in the modes of coagulation and cutting with a sharp edge (until complete intersection) with the control of the integrity of portions of the rectal sphincter. External and internal hemorrhoids were removed in a similar way at 7 and 11h. Postoperative mucosal wounds were left open, and skin wounds were preferred to be restored, but without narrowing of the anal canal.

Results and discussion. The use of an ultrasound scalpel significantly reduced the duration of the operation compared to the Milligan-Morgan hemorrhoidectomy (15.0±3.1 and 42.0±6.2 min. respectively) ($p<0.05$). The reduction of the duration of the intervention when using a harmonic scalpel is achieved due to simultaneous coagulation and tissue intersection and ensuring complete hemostasis. In the case of standard hemorrhoidectomy, scrupulous provision of hemostasis, mucosal restoration by applying numerous sutures is required, which leads to a noticeable increase in the duration of the operation and plays a significant role in the development of postoperative pain syndrome.

It is also important that during ultrasound hemorrhoidectomy, blood loss is minimal and was no more than 10 ml (determined by gravimetric method). In the case of standard hemorrhoidectomy, the volume of intraoperative blood loss was noticeably higher and averaged 50 ml (ranked 25-120 ml).

In the postoperative period, we studied the severity of postoperative pain syndrome and its impact on the quality of life of operated patients. To assess the pain syndrome by its intensity, a universally accepted visual analog scale (VAS) was used,

taking into account the presence of pain syndrome from 0 - no pain, up to 10 points - unbearable pain. In addition, we have studied the need of patients to use painkillers in the postoperative period. For anesthesia, depending on the degree of pain, a 2% solution of promedol in a volume of 1 ml or a solution of ketorol in a volume of 1 ml were used. At the same time, patients found out how many hours the analgesic effect of the drug in a standard dose lasts until the development of a pain syndrome requiring repeated administration of the drug.

On the 1st day after surgery, significant differences in the level of postoperative pain syndrome were revealed in patients of the main group compared with the control group (4.0±0.6 and 8.0±0.5 points, respectively; $p<0.05$). On the 2nd-3rd day, an even more significant decrease in the severity of the pain syndrome was noted in patients of the main group up to grade 0 according to VAS, while in the control group the pain syndrome was at the same level.

The severity of the pain syndrome in patients after surgery in both groups significantly influenced the assessment of the quality of life, determined by a visual-analog scale from 0 to 100 points of the V.I.Pomazkin questionnaire (2010).

Patients of the main group had a noticeably lower need for narcotic analgesics (2% promedol solution) compared to patients of the control group. Patients of the main group noted the need for anesthesia on the 1st day 2.7 ± 1.6 times, on the 2nd day 2.3 ± 1.2 times, on the 3rd day 1.2 ± 0.6 times. In the control group, there was a need for anesthesia on the 1st day 6.8 ±2.3 times, on the 2nd day 6.25± 3.8 times, on the 3rd day 6.2± 2.2 times. In the main group, patients did not find the need for the use of non-narcotic analgesics already on the 3rd day after surgery, in the control group, the need persisted on the 6th-7th day after surgery until discharge from the hospital. The early cancellation of analgesic drugs in the main group allowed for an earlier discharge from the hospital, reducing the duration of the rehabilitation period and the duration of temporary disability. The reason for the significant reduction of postoperative pain syndrome in patients of the main group in comparison with the control group, we consider the absence of tissue tension in the area of intervention due to the absence of the need for mucosal restoration and the small size of the postcoagulation scab when using a harmonic scalpel.

Dysuric phenomena in the groups differed significantly ($p<0.05$): patients in the main group, due to difficulty urinating, needed catheterization of the bladder on the 1st day after surgery in 13.3% of cases, while in the control group this indicator was 40%.

The operated patients of both groups did not have complications requiring repeated surgical interventions or changes in management tactics.

The duration of postoperative stay of patients in the hospital in the main group was 4.4± 1.8 (ranked 3-6 days), in the control group 6.2± 0.52 days (ranked 5-7 days).

We found that in patients of the main group, the terms of postoperative

Asian journal of Pharmaceutical and biological research 2231-2218
http://www.ajpbr.org/
Universal IMPACT factor 7
SJIF 2022: 4.465
Volume 12 Issue 2
MAY-AUG. 2023
rehabilitation of patients are significantly shorter (11.1 ±1.7 and 19.2±3.4 days in the control group, $p<0.05$). This is primarily due to the minimal severity of pain syndrome in patients of the main group and a higher quality of their life. The assessment of the quality of life of patients according to the SF-36 questionnaire of both groups at the time of discharge is shown in Figure 1.

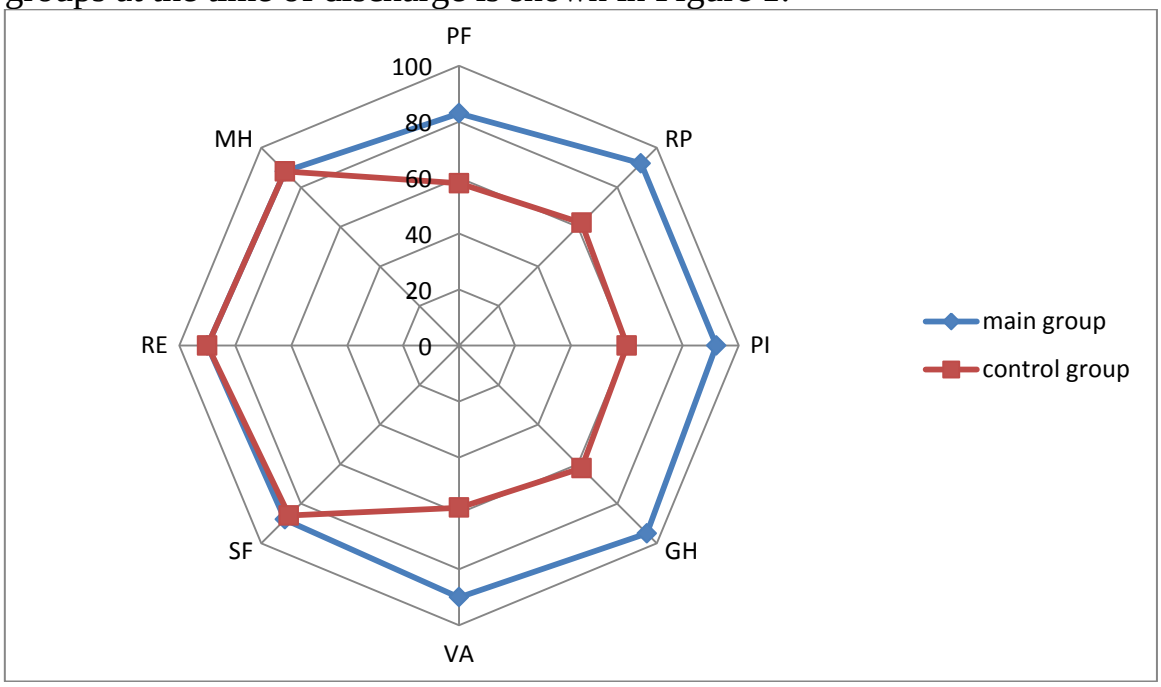

Fig. 3. Diagram of the assessment of the quality of life of patients of the main and control groups according to the SF-36 questionnaire by the time of discharge from the hospital

As can be seen in Figure 3, after discharge from the hospital, the intensity of pain syndrome (Body Pain) has the greatest impact on the quality of life of patients of both groups. This low indicator in patients of the control group naturally has a negative impact on vital activity (Vitality VT), Role-Physical Functioning (Role-Physical Functioning RF) and general health (General Health GH) - statistically significant differences in the studied groups were revealed according to these indicators ($p<0.05$).

Conclusion. Based on the presented study, it can be judged that the use of the Harmonic ultrasonic scalpel can significantly reduce the duration of surgery and, thereby, increase the number of operations performed during the working operating day. Conducting an "ultrasound hemorrhoidectomy" has a significant positive value for the patient as well - reducing the severity of the pain syndrome and restoring a satisfactory quality of life in the early stages after surgery. This, in turn, makes it possible to reduce the time of rehabilitation of the patient and his temporary disability (72.3% of patients in the main group were working). All of the above suggests that the use of an ultrasonic scalpel in the treatment of chronic hemorrhoids, despite the relatively high price of consumables, allows you to get a significant economic effect.

References

1. Vorobyov PI. Hemorrhoids: a guide for doctors // LitTerra. - 2010. - 200 p. (in Russian)

2. Vorobyov PI. The experience of using an ultrasound scalpel in colorectal surgery / G.I. Vorobyov, A.M. Kuzminov, A.P. Zhuchenko et al. // Annals of Surgery. - 2001. - No. 1. - pp. 59-60. (in Russian)

3. Nurullin R.F. Experience of hemorrhoidectomy using an ultrasound scalpel / R.F. Nurullin, F.Y. Gulaliev, M.H. Zakirzyanov // Kazan Medical Journal. -2010. - No. 3. - pp. 346-348. (in Russian)

4. Coimann M. Colon and rectal surgery. - New York: Lippincot-Raven, 1998. -C. 41-59.

5. Khan S. Surgical treatment of hemorrhoids // Dis. Colon. Rectum. - 2001. - Vol. 44. - P. 845-849.

6. Thorbeck C.V Haemorrhoidectomy: randomised controlled clinical trial of Ligasure compared w ith Milligan -Morgan operation // Eur. J. Surg. - 2002. - № 168 (8-9).-P.482-484.