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Hemorredectomy: Evaluation of Techniques and Satisfaction

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Abstract

A number of surgical procedures have been suggested as potential treatments for hemorrhoidal disease (HD). Still up for discussion, however, is which method is best suited to deal with certain situations. The researchers in this study set out to see how the Milligan-Morgan (MM) hemorrhoidectomy stacked up against the HAL-RAR method. We performed a retrospective study on the database of patients who had HD surgery in our department, which had been prospectively gathered. The MM group and the HAL-RAR group were the two sets of patients that were studied. Both the recurrence rate and the patient satisfaction rate were considered primary end goals. For numerical variables, we used the unpaired t test, and for categorical variables, we utilized the x2 test.

The outcomes are: A total of sixty-two individuals were selected for hemorrhoidectomy, with the option to undergo HAL-RAR or MM. Four (4) patients were not included in the analysis due to not being followed up. Of the remaining 58 patients, 35 (27 men and 8 females) with a median age of 47 (range 18-69) were part of the HAL-RAR group, and 22 (nineteen males and three females) with a median age of 52 (range 32-71) were a part of the MM group. Out of a total of 72 months of followup, 12 occurred in the HAL-RAR group and 4 in the MM group at a median follow-up of 41 months (p 0.229). In the HAL-RAR group, the average period between the surgery and recurrence was 14.1 ± 9.74 months, whereas in the MM group, it was 21 ± 13.34 months. Subjected to MM, patients whose primary symptoms of HD were itching, pain, or discomfort had considerably fewer recurrences (p 0.0354) and reported much higher satisfaction ratings (6.72 ± 2.15 vs. 8.11 ± 1.99—p 0.0111). Patients in the HAL-RAR group reported substantially higher levels of satisfaction (8.59 ± 1.88 vs. 6.45 ± 2.70— p 0.0013) when bleeding was the presenting symptom in the subgroup of patients. Final thoughts: Compared to HAL-RAR, MM resulted in lower recurrence rates and higher patient satisfaction ratings in HD patients whose first symptoms were pain, itching, or discomfort. Compared to MM, HAL-RAR resulted in higher patient satisfaction and equal recurrence rates in individuals whose bleeding was the primary presenting symptom of HD.

Keywords: milligan-morrhoidectomy, ligation of the hemorrhoidal artery, and rectoanal repair.

Introduction:

One in ten people on Earth may have hemorrhoidal disease (HD) at some point in their lives [1]. There is currently no accepted explanation that adequately describes the disease's pathogenesis [2]. There have been procedures to treat varicose veins in the anal canal, but the hypothesis that mucosal prolapse is caused by structural alterations in the area's supporting connective tissue seems to have greater support [3, 4]. The effects of the illness on the anal canal physiology, such as elevated resting anal pressures, decreased rectal compliance, and excessive perineal descent, have been welldocumented [5, 6], regardless of the exact cause. The most common clinical manifestation of HD is painless rectal bleeding that occurs in conjunction with bowel movements [7]. More mucus production or soiling from a prolapsing hemorrhoid could irritate or annoy the perianal region. Most internal hemorrhoids, especially the simpler ones, don't hurt. Discluding other painful perianal disorders such fissures, abscesses, or even an anorectal tumor should be done if discomfort is present [8].

The conventional Goligher classification, which relies only on the severity and features of the prolapse, remains the gold standard for evaluating internal hemorrhoids, despite its obvious shortcomings [9]. As a first line of defense, you may try sitz baths, make adjustments to your lifestyle, and increase your fiber and oral fluid intake [10]. In instances when conservative treatment fails, outpatient procedures including scleotherapy and rubber band ligation should be used to treat I, II, and III-degree HD [10, 11]. The efficacy of these in-office methods in alleviating HD symptoms is generally being recognized more and more [11]. Patients with bleeding second-degree HD were shown to have a positive prognosis after undergoing sclerotherapy with 3% polidocanol foam, according to a recent multicenter phase II study [12].

Surgical removal of hemorrhoids, using either the Milligan-Morgan (MM) or the Ferguson procedure, is still a highly effective method for patients who do not respond to or are unable to tolerate office-based procedures, those with grade III or IV HD, or those with significant concomitant skin tags [10, 11]. In an effort to find a better way to treat HD than with typical surgery, non-excisional surgical methods including Doppler-guided hemorrhoidal artery ligation with or without mucopexy have been suggested in the last 20 years [13]. Hemorrhoidal artery ligation seems to be linked to a shorter operating time, less postoperative problems, and significantly lower postoperative discomfort compared to the more invasive surgical procedures [11, 14].

But alternative methods, such the hemorrhoid laser treatment (HeLP), have been employed to accomplish the same local effect, in addition to suture ligation of the hemorrhoidal arteries [15]. This method accomplishes hemorrhoidal dearterialization by means of the specific coagulating and shrinking effects of laser radiation on vesicles. Research has shown that the HeLP technique is effective in alleviating symptoms of HD [15, 16]. Patients with greater degree HD may not benefit fully from the HeLP procedure, however an alternative termed HeLPexx may be performed, which involves mucopexy in addition to hemorrhoid artery ligation, to treat symptomatic mucosal prolapse [17].

With the exception of very uncommon consequences like gangrene and instances of excessive bleeding, HD is often an illness that mostly impacts patients' quality of life. Within this paradigm, the long-term efficacy of each treatment technique is measured by the major end points, which include improved quality of life ratings and greater patient satisfaction rates after treatment. Even the most current HD

management standards are almost always focused on stages [10, 11, 13]. The issue is that the symptoms experienced by patients do not always correspond precisely to the stage of HD [10].

This study aimed for evaluation different techniques in treatment Hemorredectomy.

Patients and Methods:

Patients scheduled for surgery at private hospitals in Baghdad city between 2019 and 2023 were the subjects of a retrospective database investigation. Persistent HD symptoms after a failed attempt at conservative therapy and non-surgical office treatments, symptomatic grade III and IV HD, and serious, life-threatening bleeding linked with HD were all reasons for surgery [10, 11]. In addition to surgical reasons, participants had to be between the ages of 19 and 74, meet the requirements for elective surgery, and not have any substantial comorbidities, defined as an American Society of Anesthesiologists score of I or II [18]. People who did not meet the inclusion criteria had to have a history of anorectal surgery, an associated condition (such as anal fissure, fistula, abscess, rectal prolapse, or fecal incontinence), an American Society of Anesthesiologists score of 3 or higher, other sources of persistent pain, or mental illness.

We have two outpatient clinics a week (Outpatient clinic A and Outpatient clinic B) where we see patients for consultation and treatment of anorectal problems; each clinic has its own unique approach to the surgical procedures they give and the protocols they follow when necessary. Surgery candidates seen at outpatient clinic A undergo MM hemorrhoidectomy, whilst those seen at outpatient clinic B are given the HAL-RAR treatment. The setting's centralized appointment system randomly assigns new patients to either outpatient clinic A or B based on their preference. Internal scheduling of review sessions is done for future open slots at the same outpatient facility. Each of the two clinics is staffed by a different attending specialist, and between them, they have years of expertise in HD surgery and are experts in both operations. As a matter of policy, this setting actually split its patients into two groups: one that had MM hemorrhoidectomy and another that underwent HAL-RAR. All five surgeons who were participating in the procedure followed the same protocol whether they were using spinal or general anesthesia to execute the procedure. Although the patient's choices were considered throughout the comprehensive preoperative anesthetic examination and consultation, the kind of anesthesia that was ultimately chosen was heavily influenced by their wishes. About two hours before the treatment, every patient underwent a rectal sodium phosphate enema. Preoperative antibiotic prophylaxis included a single intraoperative dosage of a second-generation cephalosporin. An extra dosage of antibiotics was only given to individuals who needed a Foley catheter inserted. With the patient in a lithotomy posture, a specialized proctoscope (Fig. 1) with a Doppler transducer was inserted into the anal canal as part of the HAL-RAR procedure. Following the guidelines laid forth by Hoyuela et al. [19], a standard HALRAR process was executed. In every instance, no hemorrhoidal tissue was removed during the surgery. Hemostasis was sufficient when the surgery was finished in most instances. Still, in order to keep the same operating principles consistent across all patients, we opted to place a swab soaked with 2% lidocaine gel within the anal canal. One alternative surgical procedure was a traditional open hemorrhoidectomy, as detailed by Morgan and Milligan [20]. As with the HAL-RAR technique, a swab saturated with 2% lidocaine gel was used to block the anal canal and leave the incisions exposed.

All patients were given proton pump inhibitors and low molecular weight heparin as preventative measures after surgery. Paracetamol 500 mg orally every 6 hours and 40 mg of parecoxib sodium given intravenously twice day were the usual analgesic regimen after surgery. Most patients' pain was well managed by following the conventional analgesic strategy. To achieve optimum pain management,

however, 14 patients (4 in the HAL-RAR group and 10 in the MM group) were given extra opioid analgesics, namely 50 mg of oral tramadol every six hours for a total of 48 hours. It was standard practice to remove the anal plug 8 hours after the treatment, or earlier if the patient had a bowel movement before then. Patients who had an excisional hemorrhoidectomy were given detailed instructions on how to manage their discomfort, resume normal activities, and care for their wound upon discharge. In the days after the treatment, patients were instructed to take oral paracetamol with or without ibuprofen, a moderate laxative, and a gauze pad to cover the anal wound, the dosage of which would depend on the intensity of the discomfort.

Patients with grade I and II HD are typically treated conservatively with lifestyle and dietary changes, including increasing fluid and fiber intake orally, decreasing fat consumption, avoiding excessive straining, and regular aerobic exercise. The exception to this is when patients bleed extremely badly. To round out this cautious approach, topical therapies with anti-inflammatory drugs, local anesthetics, or corticosteroids are sometimes used. How long a patient must undergo conservative therapy depends on how well it works. The duration of this time is further extended, even to the point of permanently postponing any future treatments, as soon as patients notice a significant improvement in their symptoms as a result of these dietary and lifestyle changes. Some people may not have a resolution of their symptoms after undergoing these noninvasive therapies, even though the majority of patients do very well. The attending physician or consultant at the outpatient clinic performs office operations, most often rubber band ligation, on these patients. Depending on the severity of the case, it may take more than one session to insert all three rubber bands above the dentate line. The majority of patients report little discomfort after having a rubber band ligation. In most cases, overthe-counter pain relievers are more than enough to alleviate the "HD related" discomfort that a tiny percentage of patients reported experiencing following this office treatment. Major problems like local sepsis or excessive bleeding were not associated with this minimally invasive method.

Two weeks after the surgical procedure, the patients were to return for an outpatient follow-up appointment to evaluate the immediate effects of the procedure. As part of the data collection process for this paper, they were also contacted by phone to provide updated follow-up information about the long-term effects, particularly recurrences. If applicable, the time interval between the procedure and the recurrence was also measured. Patients were also asked to estimate their level of satisfaction after the treatment and to provide honest responses to two questions designed to identify the most bothersome or concerning presenting symptom (Table 1). We opted for a nonstandardized scale to gauge patients' satisfaction levels since we wanted to make data collecting and analysis easier. The study's design called for patients to be contacted by phone for follow-up, and it would have been a major hassle to employ a fully validated questionnaire.

Table 1 The questions asked during the phone follow up

Questions
1. Which one of the following two, Bleeding (A) or Pain / Itching / Discomfort (B) best describes the reason that made you seek surgical consultation about your hemorrhoidal disease problem?

2. In a scale of 1 (worse) to 10 (best), how satisfied are you from your hemorrhoidal disease surgery?

Statistical analysis

This was done by using SPSS version 21.

Results:

Our department performed a retrospective analysis of data obtained prospectively from patients who had MM hemorhoidectomy or HAL-RAR. We identified 62 individuals who had either MM hemorrhoidectomy or HAL-RAR. Excluded from the study were four (4) patients who were lost to follow-up, three (3) patients who were sent to HAL— RAR and one (1) patient who were submitted to MM. With a median age of 48 years old (ranging from 19 to 74 years old), the remaining 58 patients were distributed as follows: the HAL-RAR group had 35 patients (27 males and 8 females), with a median age of 47 years old (ranging from 18 to 69 years old), and the MM group had 22 patients (19 males and 3 females), with a median age of 52 years old (ranging from 32 to 71 years old). The mean degree of HD in the HAL-RAR group was 3.31 ± 0.59, with 3 patients having II degree, 24 having III degree, and 20 having IV degree. The following is the breakdown of the HD stage within the MM group: There were 5 patients with a degree II, 11 with a degree III, and 6 with a degree IV (Mean: 3.15 ± 0.72), as shown in Table 2. In terms of illness progression and fundamental patient demographics, the two groups were comparable (Table 3).

The majority of patients, 45 in total, received spinal anesthesia throughout their procedures, while just 13 had general anesthesia, mostly due to the fact that patients' preferences were a crucial factor in this decision. We found that symptomatic treatment alone cleared four instances of post-spinal puncture headache among patients exposed to spinal anesthesia: three in the HAL-RAR group and one in the MM group. An initial postoperative consequence that was rather prevalent was urinary retention. Out of the eleven patients in the HAL-RAR group, all of whom were given spinal anesthesia, and the eight patients in the MM group, two of whom were given general anesthesia and six of whom were given spinal anesthesia, a brief bladder catheterization was necessary. With respect to the immediate risks associated with the procedures used in surgery, we documented two instances of clinically significant postoperative hemorrhage in the HAL-RAR group (one patient on the day of the procedure and one on the first postoperative day) and five instances in the MM group (three on the day of the procedure, one on the first postoperative day, and one on the third postoperative day). For one patient in the second group, local conservative measures like applying gauze pressure or tamponading the bleeding with Vaseline or hemostatic gauze inserted into the anal canal weren't enough to stop the bleeding; the patient needed a second operation to ligate the bleeding vessel with sutures.

Patients who were a part of the trial did not have any delayed bleeding or septic problems, which is rather interesting. The normal prescription regimen, which included paracetamol and ibuprofen, was sufficient for postoperative pain management after discharge. Two patients were readmitted due to significant pain that could not be managed with oral medicines; these patients were from the HAL-RAR group on postoperative day 3 and the MM group on postoperative day 5, respectively. Intravenous opioids were administered to these patients. Outpatient manual anal dilations were adequate in treating a patient in the MM group who acquired significant anal canal stenosis eight months after surgery, the only long-term consequence. No patients in the research reported symptoms that would be indicative of

clinically significant incontinence, even though we did not utilize specifically developed questionnaires to determine the actual incidence of incontinence.

Twenty recurrences (28.9%) were observed in the HAL-RAR group at a median followup of 41 months (range: minimum 24 months-maximum 72 months), while nine recurrences (19.1%) were recorded in the MM group (p = 0.229). Recurrence patients in the HAL-RAR group had an average duration from surgery to recurrence of 14.1 ± 9.74 months, whereas MM group patients had an average period of 21 ± 13.34 months. Recurrence rates were considerably reduced (P 0.0354) in individuals subjected to MM compared to HAL-RAR in the subset of patients presenting with itching, pain, or discomfort. Table 4 shows that in the subset of patients whose presenting symptom was bleeding, there were no differences in recurrence rates between the MM and HAL-RAR groups.

In this research, we measured patients' levels of satisfaction after high-definition (HD) surgery by having them rank their experience on a scale from 1 (very unhappy) to 10 (very satisfied) during the phone follow-up interview. The MM group of patients in the research reported considerably higher satisfaction ratings compared to the HAL-RAR group (6.72 ± 2.15 vs. 8.11 ± 1.99 for the MM group—p = 0.0111) when it came to itching, pain, or discomfort as the primary symptoms of HD. Table 5 shows that patient satisfaction ratings were considerably higher in the HAL-RAR group compared to the MM group in the subgroup of patients whose presenting symptom was bleeding (8.59 ± 1.88 vs. 6.45 ± 2.70 for the HAL-RAR group—p = 0.0013).

Table 2 The Goligher classification for hemorrhoidal disease

Degree	Description
I	Bleeding without prolapse
II	Hemorrhoids prolapse through the anus on straining but reduce spontaneously
III	Hemorrhoids prolapse through the anus on straining and require manual replacement
IV	Irreducible prolapsing hemorrhoids, acutely thrombosed or incarcerated hemorrhoids

Table 3 Patients sample characteristics and comparison of the general clinical data of the two groups of the study (HAL–RAR and MM)

	HAL–RAR	MM	x^2 / t test	p value
Male / Female (n)	27 / 8	19 / 3	0.91	.36
Median age (range)	47 (18–69)	52 (32–71)	— 0.7945	.1923
Median BMI (range)	27 (21–37)	26 (20–39)	— 1.05099	.30182
ASA score I / II / III (n)	30 / 32 / 7	17 / 21 / 9	2.02 93	.35383

Median procedure duration (range)	40 min (25–60)	45 min (35–75)	— 2.43503	.0233
Median Length of hospital stay (range)	1 day (1–2)	1 day (1–4)	1.89455	.03484
Degree I / II / III / IV (n)	0 / 6 / 35 / 28	0 / 9 / 22 / 16	2.76 47	.26393
Spinal / General Anesthesia (n)	27 / 8	18 / 5	0.00 07	.983646

Table 4 Comparison, using the Chi square test (x^2), of the two groups of the study, according to the presenting symptom, in regard to recurrences

Symptoms	**Degree**	**HAL–RAR**		**MM**		**x^2 value**	**p**
		No of patients	**Recurrences**	**No of patients**	**Recurrences**		
Bleeding	II	1	–	1	0		
	II I	9	1	2	1		
	I V	11	1	2	1		
	Total	21	2	5	2	0.6135	0.446
Discomfort / Itch-	II 3	2	1	0			
ing / Pain	III	9	4	4	1		
	I V	12	4	3	1		
	Total	24	10	8	2	4.6357	.033467

Discussion:

Patients' quality of life is directly impacted by HD, the most frequent anorectal disease [10, 21]. When it comes to internal hemorrhoids, the most popular scheme of categorization is the Goligher classification, which was introduced in 1980 [9]. Despite its widespread acceptance, this categorization does have certain drawbacks. One issue is that it doesn't consider the possibility of an external HD component being present at the same time.

Thrombosis or skin tags, which are indications of persistent perianal inflammation, maybe the most prominent cause of pain in this situation. Secondly, it was created when there were less alternatives for treating HD. Finally, stage-specific variations in prolapse severity and symptom intensity are seen even among HD patients. Classification systems that are more analytical and descriptive are clearly needed. Specifically, the newly suggested BPRST classification uses criteria including bleeding, prolapse, reduction, skin tags, and thrombosis to categorize HD [22]. Hence, newer studies are beginning to value

significant HD features that the Goligher categorization failed to adequately recognize [22, 23]. Customizing the therapy plan based on the unique aspects of HD seems like a fair approach.

The following features would be desirable for a surgical HD treatment: very little discomfort after surgery, so patients may go back to their regular routines quickly, and absolutely no complications or recurrences. Up until now, there hasn't been a single method that combines all of these features. In terms of recurrence rates, for example, conventional excisional techniques seem to be better; nonetheless, they are associated with more postoperative discomfort [10]. While non-excisional surgical procedures seem to be linked to higher recurrence rates than conventional excisional approaches, they provide less side effects, less postoperative discomfort, and faster recovery [10, 11, 21, 23]. Generally speaking, it is not an easy process to evaluate the efficacy of a certain surgical surgery for HD. Because their symptoms are negatively impacting their quality of life, most HD patients seek surgical consultation. For many patients, the most important thing that happens after therapy is the alleviation of their symptoms, which they equate with a cure. When evaluating the success of an outpatient surgical intervention based only on a physical examination, we are likely to be overlooking crucial details. As a direct result of the procedure's impact on symptom reduction, measuring patients' level of satisfaction with it might be a useful adjunct to clinical evaluation. Patients' happiness after an intervention may be objectively measured using quality of life surveys. Though these surveys' results are useful in the short run, they may not be indicative of the long-term effects of a particular therapy due to contamination.

In order to compare the two procedures, we used our prospectively collected database of patients who had HD surgery in our department, either MM or THD-HAL. For a more precise evaluation of recurrences, we desired a minimum follow-up period of two years. In terms of the outcomes of the research, the two methods did not vary, as shown by the findings. Patients experiencing pain, itching, or discomfort as the primary symptoms of HD were more likely to report high levels of satisfaction with MM hemorrhoidectomy compared to HAL-RAR, according to the subgroup analysis. This could be because the related prolapse is better and more permanently addressed by the MM hemor-rhoidectomy than by the HAL-RAR procedure. Conversely, the success of HLA-RAR in treating HD in individuals whose first symptom is bleeding may be explicable given that the technique's underlying principle is to decrease blood flow into the hemorrhoidal venous plexus.

There is sufficient evidence in the literature to support HAL-RAR as a viable alternative for HD therapy [19, 23]. Today, people generally agree that it is a

approach associated with a high success rate, minimal complications, and recurrence rates [24]. But this minimally invasive surgical procedure seems to work better for some people than others. To further emphasize the procedure's benefits, it is important to precisely identify this patient population. Scheyer et al. found that HAL-RAR gave long-term relief for HD patients whose primary symptoms are pruritus, bleeding, and pain, which is consistent with the current study's findings but differs from ours in that they used symptom adjusted patient grouping [25]. Not only that, but patients who had HAL-RAR saw their bleeding stop sooner than those who underwent excisional hemorrhoidectomy, according to a prospective randomized experiment by Lopez et al. [26].

Despite our best efforts, our research contains a number of limitations that prevent us from drawing firm conclusions. It is important to remember that the research was retrospective, that randomization was not done correctly, and that selection bias was a consequence of this while analyzing the data. Furthermore, the findings may have been impacted by the lack of proper statistical matching. More restrictions include

a limited patient sample and the lack of an adequately established way to measure post-procedure patient satisfaction. Patients with grade II HD were also analyzed; this is a patient population for which less invasive office-based treatments may serve as the definitive therapy. According to the Hubble trial, a randomized control study that compared hemorrhoidal artery ligation with rubber band ligation for the treatment of symptomatic second- and third-degree HD, both procedures seem to be equally effective when seen as a series of sessions, even though hemorrhoidal artery ligation is more effective than a single session of rubber band ligation [27]. Nonetheless, the current research shows that the primary HD symptom should likely be part of the difficult equation for choosing the best surgical method among HD surgery candidates. In order to get better answers on the best surgical method, our department is doing a prospective randomized study that isn't constrained by retrospective analyses.

Conclusion:

Finally, MM was linked to lower recurrence rates and higher patient satisfaction ratings than HAL-RAR in patients whose primary symptoms of HD were pain, itching, or discomfort. Compared to MM, HAL-RAR resulted in higher patient satisfaction and equal recurrence rates in individuals whose primary presenting symptom of HD was bleeding.

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