

DIAGNOSIS AND MANAGEMENT OF HEMORRHOIDS : A SYSTEMATIC REVIEW

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ABSTRACT

Background: Hemorrhoids are vascular tissues that naturally develop in the submucosa of the anal canal. They are composed of blood vessels with many arteriovenous connections, smooth muscle, and loose connective tissue, which explains why hemorrhoidal bleeding is usually brilliant red.

Aims : This systematic review is to review the diagnosis and managements of hemorrhoids.

Methods: This study demonstrated compliance with all requirements by means of a comparison with the standards established by the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) 2020. Thus, the specialists were able to guarantee that the research was as current as feasible. Publications released between 2014 and 2024 were considered for this search strategy. This was accomplished by utilizing a number of distinct online reference sites, including Pubmed, ScienceDirect, and SagePub. It was determined that reviews, previously published works, and partially completed works would not be included.

Result: In the PubMed database, the results of our search brought up 7536 articles, whereas the results of our search on SAGEPUB brought up 4560 articles, our search on SCIENCE DIRECT brought up 5110 articles. The results of the search conducted for the last year of 2014 yielded a total 3250 articles for PubMed, 1369 articles for SAGEPUB and 1565 articles for SCIENCE DIRECT. In the end, we compiled a total of 8 papers, 5 of which came from PubMed, 1 of which came from SAGEPUB and 2 of which came from SCIENCE DIRECT. We included eight research that met the criteria.

Conclusion: In summary, the illness hemorrhoids is prevalent yet complicated. Patients who have hemorrhoidal signs and symptoms should be closely examined to rule out other possible masquerade conditions. Hemorrhoids can be managed in a variety of ways, and the best course of action depends on the unique needs of each patient as well as clinical considerations.

Keyword: Hemorrhoids, diagnosis, management

INTRODUCTION

The illness hemorrhoids is prevalent yet complicated. Patients who have hemorrhoidal signs and symptoms should be closely examined to rule out other possible masquerade conditions. Hemorrhoids can be managed in a variety of ways, and the best course of action depends on the unique needs of each patient as well as clinical considerations. Adult anus lengths are around 4 cm, with the dentate line situated about in the middle. Internal hemorrhoids occur when they form above the dentate line. Because they have visceral innervation, they are painless. Beneath the dentate line, external hemorrhoids can become uncomfortable when inflamed. Effective therapy for internal hemorrhoids can be determined by grading the level of prolapse on a scale from I to IV. However, because it only takes into account the degree of prolapse and ignores other clinical aspects including the size and number of hemorrhoids, the intensity of the pain and bleeding, and the comorbidities and preferences of the patient, this grading system is insufficient.¹

Since the majority of individuals are asymptomatic and do not seek medical attention, the precise prevalence is unclear. Hemorrhoids were found to be 39% common in people receiving standard colorectal cancer screening, with 55% of those patients indicating no symptoms. Hemorrhoids are more common in people between the ages of 45 and 65. Hemorrhoids are linked to disorders that raise pressure in the hemorrhoidal venous plexus, such as constipation-related straining during bowel movements, albeit the exact etiology of the condition is unknown. Additional correlations include cirrhosis with ascites, anal intercourse, obesity, pregnancy, chronic diarrhea, pelvic floor dysfunction, and a low-fiber diet.²

In the first grades with hemorrhagic symptomatology, outpatient or less resource-intensive procedures can be performed; nevertheless, radical hemorrhoidectomy is recommended for grades III and IV, or for patients who, even in cases of minor grades, are symptomatic or resistant to medical intervention. By subordinating the various treatment indications to the presence or absence of symptoms, this creates variables that are independent of grade. The range of classifications of development, which serve as a key basis for staging and subsequent therapy, makes it difficult to select a treatment of choice due to the variability in methods of investigating, assessing, and treating the. This highlights the urgent necessity to choose a beginning point and the disease's categorization.³

METHODS

Protocol

The author of this study ensured that it complied with the standards by adhering to Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) 2020 guidelines. This is done to guarantee the accuracy of the results that are derived from the investigation.

Criteria for Eligibility

In order to complete this literature evaluation, we looked at published research that discusses the diagnosis and managements of hemorrhoids. This is done to enhance the patient's therapy management and to offer an explanation. This paper's primary goal is to demonstrate the applicability of the issues that have been noted overall.

To be eligible to participate in the study, researchers had to meet the following requirements: 1) English must be used to write the paper. The manuscript must fulfill both of these conditions in order to be considered for publication. 2) A few of the examined studies were released after 2013 but prior to the time frame considered relevant by this systematic review. Editorials, submissions without a DOI, already published review articles, and entries that are nearly exact replicas of journal papers that have already been published are a few examples of research that are prohibited.

Search Strategy

We used "diagnosis", "management" and "hemorrhoid" as keywords. The search for studies to be included in the systematic review was carried out using the PubMed and SAGEPUB databases by inputting the words: ((("haemorrhoid"[All Fields] OR "hemorrhoids"[MeSH Terms] OR "hemorrhoids"[All Fields] OR "hemorrhoid"[All Fields] OR "haemorrhoids"[All Fields] OR "rectum"[MeSH Terms] OR "rectum"[All Fields] OR "haemorrhoidal"[All Fields] OR "hemorrhoidal"[All Fields]) AND ("therapeutics"[MeSH Terms] OR "therapeutics"[All Fields] OR "treatments"[All Fields] OR "therapy"[MeSH Subheading] OR "therapy"[All Fields] OR "treatment"[All Fields] OR "treatment s"[All Fields]) AND ("diagnosable"[All Fields] OR "diagnosi"[All Fields] OR "diagnosis"[MeSH Terms] OR "diagnosis"[All Fields] OR "diagnose"[All Fields] OR "diagnosed"[All Fields] OR "diagnoses"[All Fields] OR "diagnosing"[All Fields] OR "diagnosis"[MeSH Subheading])) AND ((clinicalstudy[Filter]) AND (2014:2024[pdat])) used in searching the literature.

Data retrieval

After reading the abstract and the title of each study, the writers performed an examination to determine whether or not the study satisfied the inclusion criteria. The writers then decided which previous research they wanted to utilise as sources for their article and selected those studies. After looking at a number of different research, which all seemed to point to the same trend, this conclusion was drawn. All submissions need to be written in English and can't have been seen anywhere else.

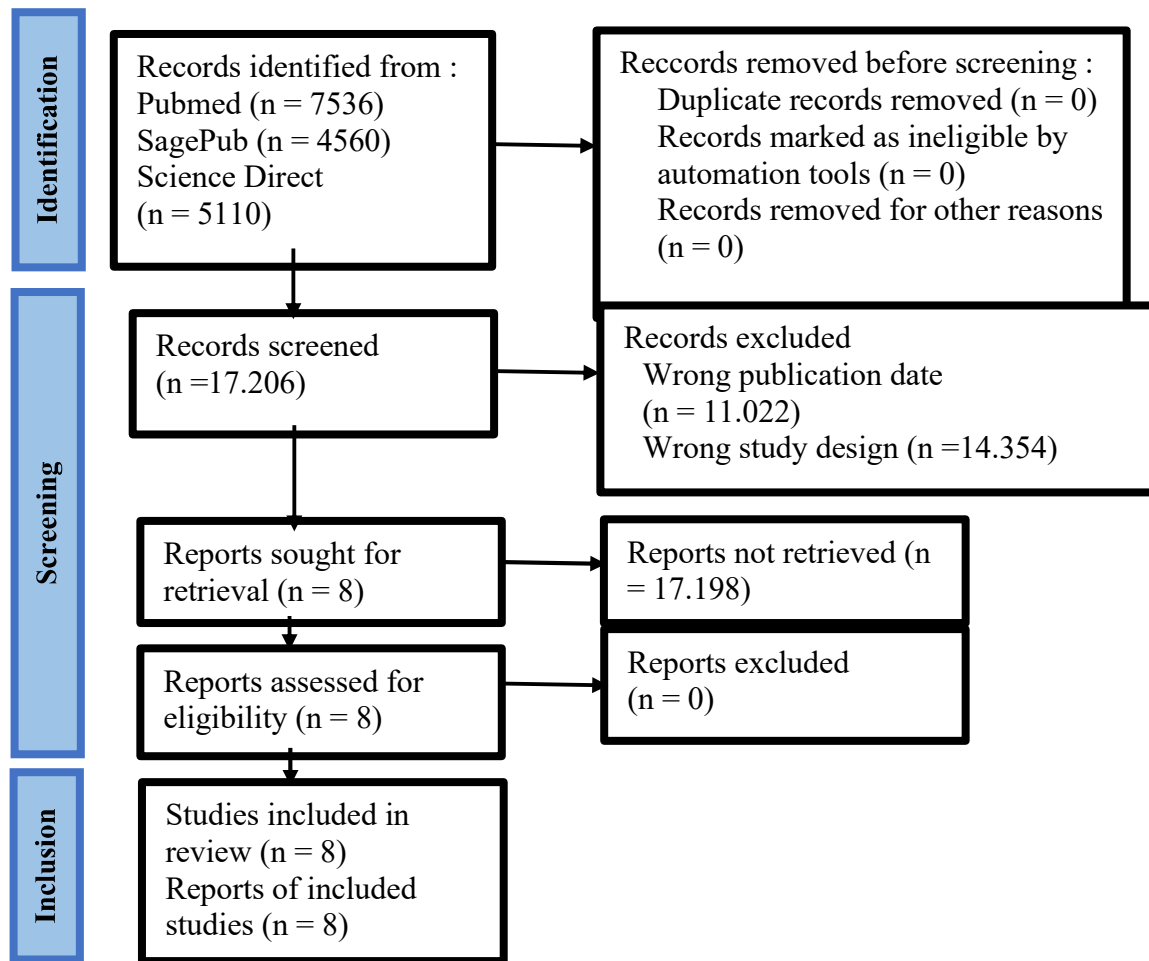


Figure 1. Prisma Flow Diagram

Only those papers that were able to satisfy all of the inclusion criteria were taken into consideration for the systematic review. This reduces the number of results to only those that are pertinent to the search. We do not take into consideration the conclusions of any study that does not satisfy our requirements. After this, the findings of the research will be analysed in great detail. The following pieces of information were uncovered as a result of the inquiry that was carried out for the purpose of this study: names, authors, publication dates, location, study activities, and parameters.

Quality Assessment and Data Synthesis

Each author did their own study on the research that was included in the publication's title and abstract before making a decision about which publications to explore further. The next step will be to evaluate all of the articles that are suitable for inclusion in the review because they match the criteria set forth for that purpose in the review. After that, we'll determine which articles to include in the review depending on the findings that we've uncovered. This criteria is utilised in the process of selecting papers for further assessment. In order to simplify the process as much as feasible when selecting papers to evaluate. Which earlier investigations were carried out, and what elements of those studies made it appropriate to include them in the review, are being discussed here.

RESULT

In the PubMed database, the results of our search brought up 7536 articles, whereas the results of our search on SAGEPUB brought up 4560 articles, our search on SCIENCE DIRECT brought up 5110 articles. The results of the search conducted for the last year of 2014 yielded a total 3250 articles for PubMed, 1369 articles for SAGEPUB and 1565 articles for SCIENCE DIRECT. In the end, we compiled a total of 8 papers, 5 of which came from PubMed, 1 of which came from SAGEPUB and 2 of which came from SCIENCE DIRECT. We included eight research that met the criteria.

Bilgin, et al⁴ (2015) showed that when it comes to the surgical management of hemorrhoidal diseases in grades III and IV, both HSH and SH are safe and efficient techniques. The HSH approach was shown to be safer, quicker, and easier to use than the SH method, and it was also linked to fewer long-term recurrences.

Tian, et al⁵ (2023) showed that the two endoscopic techniques for ligating rubber bands had acceptable therapeutic results. The two ligation techniques showed no appreciable variations in safety or effectiveness; nonetheless, simultaneous ligation increased the risk of postprocedural discomfort.

Mehdi, et al⁶ (2021) showed that hemoheal ointment helps people with hemorrhoids by relieving their clinical symptoms and indicators.

Zagriadskii, et al⁷ (2018) showed that for most patients, conservative treatment with MPFF was helpful in reducing hemorrhoidal symptoms. Patients with grade I and II hemorrhoids responded best to MPFF-based therapy before irreversible degenerative alterations in the hemorrhoidal plexuses' ligaments had taken place. It was also helpful in maintaining ideal circumstances during the recovery phase and avoiding disease return in individuals with more severe HD.

Table 1. The literature include in this study

Author	Origin	Method	Sample	Result
Bilgin et al, 2015⁴	Turkey	Prospective randomized study	51 patients	Both groups' clinical and patient demographic characteristics were comparable. When comparing the HSH group to the SH group, the operating time was noticeably less. Although there was a substantial increase in the frequency of severe pain in the HSH group, overall pain levels did not differ significantly across the groups. When comparing the HSH group to the SH group, there was a substantial decrease in recurrence.
Tian et al, 2023⁵	China	Randomized controlled study	62 patients	In the hemorrhoid ligation and combination ligation groups, the rates of full resolution, partial resolution, and no change were 71.0 and 64.5%, 22.6 and 32.3%, and 6.5 and 3.2%, respectively. There were no appreciable variations between the groups in terms of overall efficacy, recurrence rate, or efficacy for any individual symptom, such as bleeding, prolapse, discomfort, anal swelling, itching, soiling, and constipation. There were no incidents that required emergency surgery that may have been fatal. In the combination ligation group, there was a greater incidence of postoperative discomfort (74.2% vs. 45.2%, P = 0.02). Regarding the occurrence of additional problems or patient satisfaction, there were no discernible differences between the groups.
Mehdi et al, 2021⁶	Iran	Randomised study		Following a 3-week course of therapy, the distribution of anal irritation, bleeding, pain, and swelling sensation indicated

				significant changes ($P < 0.05$). However, there were no significant differences between the two groups for anal itching or discomfort during defecation ($P > 0.05$). Additionally, a noteworthy distinction was noted in the overall subjective improvement between the Hemoheal cream and placebo groups ($P = 0.012$). Rashes on the application site were reported by one patient in the therapy group.
Zagriadskii et al, 2018⁷	Russia	Randomized study	1952 patients	A 1952 patients in all were enrolled. During the whole observation period, 1489 (76.3%) patients responded well to MPFF-based conservative therapy in eradicating the primary clinical symptoms of the condition, namely internal node prolapse and bleeding. 395 patients (20.2%) with grades I–III hemorrhoids received MPFF conservative therapy in addition to invasive treatment, which was administered to 68 patients (3.5%) with grade IV hemorrhoids.
Zhai et al, 2022⁸	China	Randomized study	123 patients	Between the two groups, there were no discernible differences in terms of clinical effectiveness, operation duration, or hospital stay ($P > 0.05$). Nonetheless, the SF group's VAS score was lower than the MM group's. Additionally, the SF group had a greater benefit in protecting anal function ($P < 0.05$). Furthermore, there was no statistically significant variation in the postoperative recurrence rate and patient satisfaction as per the findings of the follow-up survey ($P > 0.05$).
He et al, 2017⁹	China	Randomized multicenter study		Patients who had RPH alone had the lowest operation time, followed by those who received RPH+sMMH, PPH alone, MMH alone, and PPH+sMMH ($P < .01$). Patients who got RPH alone had the lowest postoperative inpatient stay, with the length increasing in the following order: PPH alone, RPH+sMMH, PPH+sMMH, and MMH alone

				(P <.01). Patients who underwent RPH+sMMH had a considerably lower incidence of postoperative hemorrhage, uroschesis, anal fissure, crissum hematoma or thrombosis, and anorectal stenosis than patients who had the other four types of surgical therapies (P <.05, P <.01). Between the five patient groups, there were no appreciable variations in anal incontinence or postoperative rectovaginal fistula.
Bagla et al, 2023¹⁰	USA	Randomized study	134 patients	In 133 individuals (99%), embolization of at least one hemorrhoidal artery was accomplished. A mean of 2.9 ± 1.0 SRA branches were embolized for each subject. At the one-month follow-up, 93% of patients (124 out of 134) showed clinical success; 10 patients needed repeat embolization. At one month, all of the following mean outcomes showed substantial improvements: HG (2.3–1.2; P <.05), QoL (2.2–0.8; P <.01), FBS (4.4–2.2; P <.01), HSS (11–7.8; P <.01), and HRP (4.1–1.3; P <.01). There were no serious negative outcomes.
Gu et al, 2023¹¹	China	Randomized clinical study		Following therapy, the moxibustion group experienced 5% post-hemorrhoidectomy urine retention, compared to 20% in the pharmaceutical group (P < 0.05). In the group receiving moxibustion, the time to the first voiding following surgery was 4.76 ± 1.69 hours, but in the pharmaceutical group it was 6.81 ± 1.15 hours (P < 0.05). The moxibustion group's initial voiding volume was 300.67±110.33 mL, which was more than the medicine group's (224.67±90.88) mL (P<0.05). In the moxibustion group, there were no unfavorable events during the study. There were cases of nausea and dizziness in the drug group.

Zhai, et al⁸ (2022) showed that suture-fixation mucopexy is as successful in treating prolapsed hemorrhoids as Milligan-Morgan hemorrhoidectomy, but it offers additional benefits in terms of reducing postoperative discomfort and preserving anal function.

He, et al⁹ (2017) showed that ruiyun procedure for hemorrhoids (RPH) can increase the curative effectiveness of therapy for patients with mixed hemorrhoids and lower the incidence of postoperative complications, either with or without simplified Milligan-Morgan hemorrhoidectomy (MMH).

Bagla, et al¹⁰ (2023) showed that RBL is the most often prescribed office-based therapy for hemorrhoids; it has an approximately 70% effectiveness rate, and almost half of the patients need further banding within a year. In the short term, HAE is a safe and efficient outpatient therapy for refractory symptomatic internal hemorrhoids.

Gu, et al¹¹ (2023) showed that moxibustion enhanced the amount of urine following hemorrhoidectomy of mixed hemorrhoids, decreased the incidence of post-hemorrhoidectomy urinary retention, and shortened the time to the first voiding. Given its potential benefits and safety, this treatment may be suggested to clinical practices.

DISCUSSION

Hemorrhoids are vascular tissues that naturally develop in the submucosa of the anal canal. They are composed of blood vessels with many arteriovenous connections, smooth muscle, and loose connective tissue, which explains why hemorrhoidal bleeding is usually brilliant red. It is believed that hemorrhoids help maintain stool continence by giving the anal canal more volume. This exercise examines the etiology, pathophysiology, and clinical manifestations of internal hemorrhoids, emphasizing the interprofessional team's crucial involvement in their treatment. Bilgin, et al in their study of 99 patients with HSH (48 patients) and SH (51 patients) showed the result that both are safe and effective for surgical treatment of Grade III and Grade IV hemorrhoidal disease.⁴

Tian in their study of efficacy of endoscopic rubber band ligation methods in hemorrhoids in 62 patients (31 in each group) that followed up until 12 months showed that there were no appreciable variations between the groups in terms of overall efficacy, recurrence rate, or efficacy for any individual symptom, such as bleeding, prolapse, discomfort, anal swelling, itching, soiling, and constipation. There were no incidents that required emergency surgery that may have been fatal. In the combination ligation group, there was a greater incidence of postoperative discomfort (74.2% vs. 45.2%, $P = 0.02$). Regarding the occurrence of additional problems or patient satisfaction, there were no discernible differences between the groups.⁵ Bagla, et al also said in their study that rubber band ligation (RBL) is the most often prescribed office-based therapy for hemorrhoids; it has an approximately 70% effectiveness rate, and almost half of the patients need further banding within a year. But, when comparing to HAE, HAE is safer and more effective in treatments of hemorrhoids.¹⁰

Mehdi, et al in their study of hemoheal cream to treat hemorrhoid showed that after 3 weeks of treatment, there is positive effect of hemoheal cream in improving the signs and symptoms of patients with hemorrhoids.⁶ Gu, et al in their study showed moxibustion enhanced the amount of urine following hemorrhoidectomy of mixed hemorrhoids, decreased the incidence of post-hemorrhoidectomy urinary retention, and shortened the time to the first voiding. Given its potential benefits and safety, this treatment may be suggested to clinical practices¹¹

The sequence in which therapies are undertaken should be guided by other considerations such the level of pain, bleeding, comorbidities, and patient desire. The cornerstones of early therapy include medical management (such as stool softeners, topical over-the-counter medications, topical nitroglycerine), dietary adjustments (such with increased fiber and water intake), and behavioral therapies (such as sitz baths). The next best course of action, if these fail, is office-based rubber band ligation therapy for grades I to III internal hemorrhoids, as this procedure has a lower failure rate than infrared photocoagulation. Hemorrhoidsectomies, whether open or closed (traditional), have better surgical success rates but are associated with more discomfort and a longer recovery period than office-based treatments. For this reason, they should only be used in cases of recurring or higher-grade illness.¹

Using ultrasonic or diathermic cutting instruments during a closed hemorrhoidectomy might lessen discomfort and bleeding. By removing a strip of proximal mucosal tissue, stapled hemorrhoidopexy restores grade III or IV hemorrhoids to their native anatomic location. Nevertheless, there are a number of possible postoperative problems associated with this treatment. When treating grade II or III hemorrhoids, hemorrhoidal artery ligation may be helpful as patients may heal faster and with less pain. If thrombosed external hemorrhoids are removed during the first two to three days of symptoms, discomfort can be significantly reduced.¹

CONCLUSION

In summary, the illness hemorrhoids is prevalent yet complicated. Patients who have hemorrhoidal signs and symptoms should be closely examined to rule out other possible masquerade conditions. Hemorrhoids can be managed in a variety of ways, and the best course of action depends on the unique needs of each patient as well as clinical considerations.

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