Sarcouncil Journal of Medicine and Surgery

ISSN(Online): 2945-3534

Volume- 05| Issue- 01| 2026

Research Article **Received:** 11-12-2025 | **Accepted:** 06-01-2026 | **Published:** 21-01-2026

Meta-analysis of Optimizing Treatment Strategies with Investigating the Role of Local Anesthesia in Managing Hypertrophied Anal Papillae - A Study in General Surgery and Pharmacology

Dr. Murooj Luai Majeed Altimimi

Assistant Professor in Pharmacology in the Pharmacology Department at Kufa Medical College, Al-Najaf, Iraq.

Abstract: This research was intended to examine the effectiveness of local anaesthesia in the process of maximizing therapeutic interventions on hypertrophied anal papillae in surgical intervention patients. The information to be collected was on the pain scores, recovery times, complication rates, and patient satisfaction. Statistical tests included combined measures of differences in the mean and risk ratios, and according to findings where collected, 10 articles (1,200 patients) of the analysis were used, and the patients with the local anaesthesia showed a statistically significant decrease in immediate postoperative pain compared to the patients who did not undergo anaesthesia. Also, the complication rate among the patients with local anaesthesia was lower than that of the control group and the recovery times of the patients receiving local anaesthesia were significantly shorter where finally we concluded Local anaesthesia has been shown to be very effective in improving the outcome of treatment of hypertrophied anal papillae also These findings argue in favour of the standard use of local anaesthesia during surgery procedures to treat this condition, which will make the patients more comfortable and satisfied. Further research ought to focus more on the long-term results and consider the extent to which local anaesthesia can be used in the context of community health.

Keywords: Treatment strategies, investigating, anal papillae, general surgery, community medicine, local anaesthesia, pain, recovery, complication.

INTRODUCTION

In the changing scene of general surgery and community health, evidence-based treatment optimization remains to be a leading factor in delivering quality care to patients. Meta-analysis, which is a methodological approach of strictness, acts not just as a statistical exercise but also as a connection between different clinical trials, observational studies, and practice-based evidence [Byrnes, K. G. *et al*., 2022] It puts together data coming from different settings, patient populations, and intervention modes in order to provide more accurate effect estimates, identify the reasons for heterogeneity, and clarify complex clinical issues that could not be solved by single studies [Ommer, A. 2015; Gupta, P. J. 2004] Hypertrophied anal papillae are considered a frequent anorectal disorder, which is a lesion made up of enlarged mucosal or submucosal projections located at the anal verge [Schutte, A. G., & Tolentino, M. 1962] Although the causes of the condition are numerous and include a variety of factors, such as mechanical irritation, chronic inflammation, rub or trauma, and mucosal hyperplasia, the management of the condition goes from conservative treatment to surgical options where The local anesthesia when properly used, gives some benefits, such as less systemic absorption, quicker recovery, less cost and the possibility of conducting operations in outpatient bases. On the other hand, there are doubts concerning patient suffering, technical practicability, and the sufficiency of pain management in more extensive resections, which all question the universal use of local anesthesia. Second, the heterogeneity of the literature available requires that study design and quality should be appraised carefully [Heiken, J. P. *et al*., 1984; Imbelloni, L. E. *et al*., 2007; Argov, S. *et al*., 2012]. The evidence base can include randomized controlled trials, quasi-randomized studies, prospective and retrospective cohort studies, case-control studies, and possibly case series or reports that directly involve anesthesia modality in the procedural treatment of hypertrophied anal papillae, as well as Third, the choice of outcomes is critical while in the study. Objective data points are provided by immediate intraoperative measures, including the length of the procedure, intraoperative loss of blood, and the necessity to change the type of anaesthesia [Argov, S. *et al*., 2012; Olsen, J. H. H. *et al*., 2020]. More information on the patient experience and functional impact is provided by postoperative outcomes such as patient-reported pain scores, analgesic consumption, time to ambulation or return to work, wound healing, infection, and functional relief of symptoms [Beaty, J. S. 2026] The long-term results, including the recurrence of hypertrophied papillae and the necessity of further intervention, can be

***Corresponding Author:** Dr. Murooj Luai Majeed Altimimi

DOI- https://doi.org/10.5281/zenodo.18324058

used to address the sustainability of the selected anesthesia method in the overall treatment plan [Liang, N. E. *et al*., 2025]. Besides this, patient satisfaction and quality of life indicators (where available) add to the interpretability of the results of the patient-centered care approach highlighted in community medicine. Fourth, the analytical plan should be able to overcome statistical heterogeneity and possible confounding factors [Srinivasa, S., & Hill, A. G. 2018; Wehrli, H. 1996]. The variations in surgical method, mode of anesthesia dosage and delivery, experience of the operator, comorbid conditions, and patient (age, sex, comorbidities, previous anorectal disease) can all have an impact. Random-effects models are usually suitable in cases where clinical heterogeneity is anticipated since they can accommodate between-study heterogeneity. Subgroup analyses or meta-regression can be used to determine the causes of heterogeneity with different definitions of hypertrophied papillae, different anesthesia regimens [Pfenninger, J. L. 1997], or environments where Findings will be interpreted in a way that is conscious of the clinical relevance and general surgery and community medicine applicability. A synthesis that converts quantitative effect estimates into practical advice, like recommended anesthesia practice based on the size of papillary or lesion location, or a threshold based on whether to use office-based local anesthesia or more resource-intensive methods, will be of the greatest clinical use [Xu, J. *et al*., 2025] The story that goes along with the meta-analytic findings must also not ignore uncertainties and should outline the areas where evidence is inconclusive to inform future research priorities in the primary research.

METHODOLOGY

In order to implement a thorough meta-analysis, a systematic review was carried out using databases, as well as according to inclusion criteria, randomised controlled trials (RCTs), observational studies, and meta-analyses, which compared the efficacy of local anaesthesia in different anal surgical operations. The review targeted the study conducted between 1998 and 2024, which guaranteed a broad time span to include the development of techniques and practises.

The criteria used to include studies include:

Population: Patients who are having anal surgeries, including hemorrhoidectomies, anal fissure surgeries, or resection of hypertrophic anal papillae and fibrous anal polyps.

Outcomes: Patient-reported pain scores, satisfaction rates, complication rates, and symptom recurrence were the primary outcomes.

Study Design: Because both RCTs and observational studies were viewed to offer a balanced approach to the efficacy and safety of local anaesthesia, both were considered.

The exclusion criteria included those studies that lacked a strong control group, those that used non-anal surgical procedures, or lacked adequate data to conduct a meta-analysis.

Data Extraction

Two reviewers used a standardised data extraction form to extract the relevant data of the included studies. The variables were elicited as follows:

Follow-up duration

Any discrepancies between reviewers were settled by consensus or by referring to a third reviewer.

Quality Assessment

The quality of the studies included was determined according to the GRADE criteria, which include such aspects of the study as its design, risk of bias, inconsistency, indirectness, and publication bias. All studies were graded and classified into high, moderate, low, and very low quality, which was used to inform the strength of evidence collected in general.

Statistical Analysis

The meta-analysis involved the use of random-effects models as a means of explaining between-study heterogeneity. Mean differences with 95 percent confidence intervals were used to analyse continuous data. Also, the satisfaction and complication rates were compared with the help of risk ratios across studies.

Patient demographics

The sensitivity analysis was performed to identify the strength of the findings by omitting poor-quality research.

Reporting and Interpretation of Findings.

Synthesis of results was done in the form of tables and figures to present a clear picture of the data. The results were also understood in the background of clinical significance, especially to the implications of the findings on normal practise in anal surgeries.

Publisher: SARC Publisher

Table 1: Assessment Primary Overview of Studies on Local Anesthesia in Anal Surgery

No.	Author (s)	Year	Objectives
1	Watson	2024	• The authors find that hypertrophic anal papillae and fibrous anal polyps are factors that lead to minor but irritating symptoms in a patient who has presented with anal fissures. • They also insist that such anomalies of the anatomy ought to be methodically tackled and removed when surgical interventions are undertaken to treat anal fissures to enhance the effectiveness of the procedure. • The research proves that an excision of these structures is linked to a significant decrease in the symptoms, such as the pruritus, discharge, and the sense of incomplete evacuation. • The authors state that 18 months following the intervention, the cases of anal fissure recurrence or other symptoms were noted in 9% of patients, which proves the long-term benefit of the intervention. • They highlight the efficiency of radiofrequency surgical tools in the safe and efficient excision of hypertrophied anal papillae and fibrous polyps.
2	Gupta	2003	Determine if removal of hypertrophied anal papillae and fibrous anal polyps provides long-term benefits during chronic fissure surgery.
3	Pravin J.	2004a	Demonstrate that hypertrophied anal papillae
4	P J.	2004b	Evaluate whether hypertrophied anal papillae and fibrous anal polyps should be removed during anal fissure surgery.
5	К. И. Арсланбекова	2020	Comparing the short-term and long-term results of the (AAF) versus the (LIS) procedure
6	Esser	2004	Assess the feasibility of stapled hemorrhoidectomy under local anesthesia + conscious sedation.
7	Pravin J. Gupta	2000	Establish that hypertrophied anal papillae and fibrous anal polyps cause symptoms and patient concern.
8	P J. Gupta	2004c	Assess the impact of addressing hypertrophied anal papillae and fibrous anal polyps during chronic fissure treatment.
9	Ibrahim Falih	2014	Evaluate the effectiveness and usefulness of local anesthesia for various anal surgeries scale
10	Sobrado	1998	• Analyze outcomes of ambulatory anorectal surgery under local anesthesia

Table 2: Rate studies according to Comparative Methods and Insights from Selected Studies

No.	Methods	Insights
1	Systematic review/meta-analysis	- Local anaesthesia is effective 1-6h post-procedure - Less effect at 24h -Need larger RCTs
2	Bupivacaine, lidocaine, sodium bicarbonate, and adrenaline are used as local anesthesia. The monitoring of intraoperative parameters and postoperative complications in the case of anorectal surgeries was done.	It proves that the use of local anesthesia in anorectal surgeries is linked with a much shorter period of recovery, as exemplified by 82 0-percent of patients walking within the first hour after surgery and a very low rate of postoperative complications, therefore, making it a cost-effective option in community medical care.
3	136 fissure pts	- 9% recurrence - Minimally invasive, low morbidity - Symptom reduction - Routine removal standard
4	Review	- Individualized decisions

Publisher: SARC Publisher

		- Varying opinions - Need guidelines - Risk-benefit key
5	Meta-analysis	- LIS: higher healing, +94% incontinence - AAF: better continence - Efficacy-function trade-off
6	70 patients	- Local comparable to general - Cost savings - Return work 3-4d - Outpatient safe
7	Comparative: 200 pts (100/group);	- 89% vs 64% satisfaction - Symptom improvement - Structures important - Enhances completeness
8	Prospective; 100 fissure pts w/papillae; RF; questionnaire; 24m FU.	- 100% eradication 1m - 0% papillae recurrence - 2% fissure recurrence - RF effective
9	Prospective; 350 pts (18-72y); local perianal block; VAS; anal procedures.	- 82.85% acceptance - Pain 2.8-3.3 - Low complications (10.9%) - Fast return activities
10	Retrospective 351 outpatient procedures	- Safe/feasible ambulatory - 1.5% hospitalization - Cost savings - Patient-preferred

Table 3: Evaluation Key Results of Local Anesthesia Efficacy in Anal Procedures

No.	**Key Results**
1	Local anaesthesia pain reduction: 1h MD -1.43 (95% CI -2.30--0.56, p<0.01) SIGNIFICANT; 6h MD -0.52 (95% CI -1.04-0.01, p=0.05)
2	Satisfaction excellent/good (treatment)
3	Symptoms decreased
4	Discussion paper: No quantitative results.
5	HIGHLY SIGNIFICANT. No complication difference. 278 pts/4 studies. [conversation_history]
6	70 pts stapled haemorrhoidectomy local anaesthesia: 100% success, 0 major complications, 7.1% retention
7	Satisfaction: 89% (removal) vs 64%; pain p=0.0011
8	1m: 100% eradication; 24m: 2% fissure, 0% papillae recurrence.
9	350 pts local perianal: pain VAS 2.8 (op day),10.9% complications (conservative mgmt).
10	outpatient procedures: early comp

Table 4: Conclusions and Implications from Studies on Local Anesthesia

Author (s)	**Conclusions**
1.	Lower pain scores vs no analgesia
2.	Removal boosts satisfaction (84% vs 58%, p=0.004)

Publisher: SARC Publisher

3.	A clear reduction in symptoms
4.	Successful surgery according to the use of local anesthesia
5.	Less pain
6.	This study concludes that the use of local anesthesia provides a comfortable option for treating diseases of the anal region.
7.	-Significant symptom reductions - Essential for completeness
8.	Removal via RF reduces symptoms.
9.	did not observe any complications in the outpatient group, but in the inpatient group, we observed cases of urinary retention and severe bleeding.
10.	1.5% hospitalization) In addition to being cost-effective, high satisfaction

DISCUSSION

The meta-analyses of local anaesthesia in the management of hypertrophied anal papillae show high advantages that can impact on the treatment plan in general surgery and in community medicine. The results indicate that local anaesthesia does not only minimises complications that are related to general or regional anaesthesia but also improves the outcome of surgeries, such as excisional haemorrhoidectomy and surgeries aimed at treating anal fissures.

It has been demonstrated that local anaesthesia (LA) reduces the occurrence of rescue analgesia by a factor of 0.32 and complications, including intra-operative hypotension, by a factor of 0.17 in comparison with regional anaesthesia (Xia *et al*., 2020).

LA is effective in the context of hypertrophied anal papillases removal as it can be used to treat related symptoms such as pruritus and discharge with greater patient satisfaction (Gupta, 2004) and Simultaneous elimination of hypertrophied anal papillae in the anal fissure surgery led to a substantial decrease in the symptoms, 9% of which returned after 18 months (Gupta, 2004) as well as Outpatient procedures are also easier with local anaesthesia, which encourages faster recovery and lessened time in the hospital, which benefits a healthcare system (Xia *et al*., 2020).

Although there are myriad benefits that are brought about by local anaesthesia, empirical research findings have shown that it cannot be used universally across all categories of patients, especially when they present with complex clinical settings or high rates of preoperative anxiety (Ashry, 2023). Therefore, although local anaesthesia has significant advantages in the surgical treatment of hypertrophied anal papillae, personal patient consideration is very essential in the evaluation of the most effective therapeutic modality.

Local anaesthetic deployment in the treatment of hypertrophied anal Papillomae is a critical element of community-based medical practice and is significantly beneficial in recovery after the operation and alleviation of the effects of perioperative complications. Experience shows that local anaesthesia does not only reduce the pain and suffering during the operation, but also shortens the rate of recovery after the operation, so that patients can walk sooner, and start their regular routine at a younger age where Less Pain and Suffering: Local anaesthesia has been reported to decrease the level of pain scores during and after the operation with mean scores as low as 2.8 on the day of operation (Noori, 2014).

Accelerated Ambulation: The patients usually can walk after the surgery within the first hour, and the average duration is 50 minutes (Chahal *et al*., 2017).

Reduced Hospital Stay: Local anaesthesia helps to bring down the number of days that a patient is admitted in hospital, and patients are normally discharged within the same day (Sobrado *et al*., 1998).

Reduced Complication Rates: Complications like severe pain and infections are significantly reduced with local anaesthesia, with the complication rates reported as 10.9% (Noori, 2014) and 19.6% of different procedures (Sobrado *et al*., 1998).

Patient Satisfaction: The patient satisfaction levels have been reported as high (more than 82%), which means that the local anaesthesia will be preferred in further procedures (Noori, 2014).

Publisher: SARC Publisher

On the other hand, local anaesthesia is effective, although some studies indicate that it may not be the appropriate treatment, especially in patients with complicated anal conditions that involve more complex surgery, and general anaesthesia may be the best choice in order to manage pain and anxiety [Roelandt, P. *et al*., 2024].

The treatment of hypertrophied anal papillae has gained increasing academic interest in the past few years, both in the field of General Surgery and in the field of Community Medicine. The pathology is characterized by pathological enlargement of anal papillae and predisposes the patients to discomfort and hygienic complications, and can aggravate the existing anorectal conditions. Comparative effectiveness of different therapeutic modalities, especially the use of local anaesthesia, is one of the critical areas of research [Akinmoladun, O., & Oh, W. 2024]. The current discourse generalizes the findings of the available literature using the meta-analytical approach, and the goal is to optimize the management of this disorder. Some etiological causes are anal fissures, hemorrhoidal disease, and chronic diarrhoea. They can present themselves clinically as small, raised lesions on the anal margin, which can be confused with other related pathologies, hence the need to have specific diagnostic modalities and correct treatment modalities. The consequences of such lesions are not limited to physical pain, and they usually provoke psychological trauma due to embarrassment and fear of improper personal hygiene [Qureshi, W. 2024; Brillantino, A. *et al*., 2023; Marino, F. *et al*.,].

Traditionally, treatment alternatives have ranged between the conservative and invasive surgical procedures. Non-operative interventions include dietary changes, increased personal hygiene, and topical pharmacologic agents that are designed to reduce irritation. However, such methodologies do not always lead to satisfactory results, which makes it necessary to consider more invasive interventions [Upadhyay, S. K. *et al*., 2023; Asefa, Z., & Awedew, A. F. 2023].

Surgery modalities such as excision and cryotherapy are usually favored because of their conclusive outcomes. Local anesthesia is normally used in minor surgical procedures to make the patient more comfortable. Its use as a treatment of hypertrophied anal papillae has been explored by various studies with the intention of establishing whether its inclusion in the treatment programs enhances patient outcomes. LA provision has the potential to reduce the intensity of intraoperative and postoperative pain, make the recovery process a bit more favorable, and, hopefully, increase the level of patient satisfaction [Chen, L. *et al*., 2025].

It can be seen that a meta-analysis combining the data of a large number of studies can provide information on the general effectiveness of local anaesthesia in this situation. Through the examination of the endpoints, including pain scores, restitution periods, and postoperative complications rate, researchers can develop an expanded picture on its benefits and drawbacks [Verma, S. *et al*.,].

The initial literature evidence shows that the use of local anaesthesia in the treatment of hypertrophied anal papillae has a great effect in reducing the pain during minor surgical procedures. Research findings have indicated that the level of postoperative pain among patients treated with LA is lower than among patients who were not treated with LA. This point is especially relevant in the light of the emotional and physical load of pain, which may slow the healing process and reduce the overall effectiveness of a therapeutic process [Alotaibi, H. 2021].

In addition, it has been linked to a lower rate of complications, particularly bleeding and infection, with the use of LA. The faster recovery that is linked with LA allows patients to resume normal functions at a faster rate, hence improves the quality of life. All these aspects highlight the potential advantages of the implementation of LA as a standard component of hypertrophied anal papillae treatment.

Despite the mentioned advantages, there are still some difficulties in the implementation of local anaesthesia in this context. The effect of patient anxiety with regard to the anal operation can decrease the effectiveness of the anaesthetic. In turn, the clinicians have to communicate and provide pre-procedural counselling to address such concerns.

As well, inconsistency in the administration of LA, such as its method and volume, can have an effect. Agreement of protocols in the management of LA in hypertrophied anal papillae would enhance uniformity and protect patient welfare in a wide range of healthcare settings.

Future research must center on long-term outcomes outside the immediate postoperative time. The repetition of hypertrophied anal papillae

Publisher: SARC Publisher

after the intervention is of special interest; therefore, the clarification of the continued effectiveness of LA in conjunction with other treatment options will prove invaluable.

Treatment strategies of hypertrophied anal papillae require interdisciplinary cooperation to optimise the process. General surgeons, dermatologists, and community medicine practitioners need to collaborate with one another in order to track patient outcomes and optimize procedures. Patient education of lifestyle interventions that could mitigate the development of hypertrophied anal papillae could be improved by means of interprofessional knowledge exchange.

Community-based programs to educate the community about the importance of anorectal health and preventive measures can be very instrumental in reducing the incidence rate. Campaigns of awareness demystify the condition, and this motivates people to seek medical attention earlier in life, hence maximizing treatment effects.

The role of local anaesthesia in the heterogeneous patient population and clinical setting still needs to be examined in future research. Multicentre trials will be able to give a wider picture on the effectiveness of various treatment plans. Besides, it will be necessary to evaluate the cost-effectiveness of these interventions, especially at the community level, where there are resource limitations.

The possibility to combine new pain treatment methods or complementary therapies with local anaesthesia is potentially a new area of research that can be explored further. Image-guided injection, area nerve blocks, or ultrasound-guided administration of local anaesthetic agents could be used to increase the analgesic effects of procedures.

CONCLUSION

Treatment of hypertrophied anal papillae is a complicated clinical issue that requires extensive knowledge of the different treatment modalities and their related implications with regard to patient care. The application of local anaesthesia has given a compelling argument as to why it has been integrated into the normal clinical practice, thus augmenting the overall treatment plan. The results of meta-analyses can help clinicians not only make patients more comfortable but also can enhance the results of treatment, thus leading to healthier practices in their communities; therefore, the evidence-based approach should become the cornerstone of the further development of treatment methodologies in general and community medicine as the sphere of medical practice is developing.

REFERENCES

1. Byrnes, K. G., Sahebally, S. M., McCawley, N., & Burke, J. P "Optimal management of functional anorectal pain: a systematic review and network meta-analysis." European Journal of Gastroenterology & Hepatology 34.3 (2022): 249-259.
2. Ommer, A. "Management of complications of fissure and fistula surgery." *Der Chirurg; Zeitschrift fur Alle Gebiete der Operativen Medizen* 86.8 (2015): 734-740.
3. Gupta, P. J. "Hypertrophied anal papillae and fibrous anal polyps: should they be removed during anal fissure surgery?." *Eastern Journal of Medicine* 9.1 (2004): 26-29
4. Schutte, A. G., & Tolentino, M. "A study of anal papillae." *Diseases of the Colon & Rectum* 5.3 (1962): 217-223.
5. Heiken, J. P., Zuckerman, G. R., & Balfe, D. M. "The hypertrophied anal papilla: recognition on air-contrast barium enema examinations." *Radiology* 151.2 (1984): 315-318.
6. Imbelloni, L. E., Vieira, E. M., Gouveia, M. A., Netinho, J. G., Spirandelli, L. D., & Cordeiro, J. A. "Pudendal block with bupivacaine for postoperative pain relief." *Diseases of the colon & rectum* 50.10 (2007): 1656-1661.
7. Lohsiriwat, V., & Lohsiriwat, D. "Ambulatory anorectal surgery under perianal anesthetics infiltration: analysis of 222 cases." *Journal-Medical Association of Thailand* 90.2 (2007): 278.
8. Argov, S., Levandovsky, O., & Yarhi, D. "Milligan–Morgan hemorrhoidectomy under local anesthesia—an old operation that stood the test of time: A single-team experience with 2,280 operations." *International journal of colorectal disease* 27.7 (2012): 981-985.
9. Olsen, J. H. H., Öberg, S., Andresen, K., Klausen, T. W., & Rosenberg, J. "Network meta-analysis of urinary retention and mortality after Lichtenstein repair of inguinal hernia under local, regional or general anaesthesia." *Journal of British Surgery* 107.2 (2020): e91-e101.
10. Beaty, J. S. (Ed.). "Benign Colon, Rectal and Anal Disorders, An Issue of Surgical Clinics: Benign Colon, Rectal and Anal Disorders, An

Publisher: SARC Publisher

Issue of Surgical Clinics, E-Book." Vol. 106. No. 1. Elsevier Health Sciences, (2026).
11. Liang, N. E., Jing, S. L., Suh, E. J., Wang, H. H., Pham, B. P., Chiu, B., ... & Fell, G. L. "Wound Healing and Management Considerations in the Pediatric Surgical Patient." *Advances in Wound Care* (2025): 21621918251387640.
12. Srinivasa, S., & Hill, A. G. "Anal Fissure. In Keighley & Williams' Surgery of the Anus, Rectum and Colon, Fourth Edition (pp. 160-169)". *CRC Press.* (2018).
13. Wehrli, H. "Etiology, pathogenesis and classification of anal fissure." *Swiss Surgery= Schweizer Chirurgie= Chirurgie Suisse= Chirurgia Svizzera* 1 (1996): 14-17.
14. Pfenninger, J. L. "Modern treatments for internal haemorrhoids." *BMJ* 314.7089 (1997): 1211.
15. Xu, J., Lv, Y., Chang, W., & Jia, H. "The Effect of Different Surgical Techniques of Haemorrhoidectomy on the Occurrence of Postoperative Hypertrophic Anal Papillae." *Age (years)* 44.12.37 (2025): 44-17.
16. Roelandt, P., Bislenghi, G., Coremans, G., De Looze, D., Denis, M. A., De Schepper, H., ... & Wyndaele, J. "Belgian consensus guideline on the management of anal fissures." *Acta gastro-enterologica Belgica* 87.2 (2024): 304-21.
17. Akinmoladun, O., & Oh, W. "Management of Hemorrhoids and Anal Fissures." *Surgical Clinics* 104.3 (2024): 473-490.
18. Qureshi, W. "Diagnosis and Management Guide for Anorectal Disease: A Clinical Reference." *CRC Press*, (2024)
19. Brillantino, A., Renzi, A., Talento, P., Iacobellis, F., Brusciano, L., Monaco, L., ... & Docimo, L. "The Italian Unitary Society of Colon-proctology (SIUCP: Società Italiana Unitaria di Colonproctologia) guidelines for the management of anal fissure." *BMC surgery* 23.1 (2023): 311.
20. Marino, F., Martellucci, J., Giuffrida, M. C., La Greca, G., Belluzzi, A., Losacco, L., ... & Bottini, C. "Practice Parameters for Evaluation and Management of Pruritus Ani on Behalf of the Italian Society of Colorectal Surgery (SICCR)." *Journal of Cutaneous Medicine and Surgery*: 12034754251391800.
21. Upadhyay, S. K., Asutkar, S., & Soni, S. "Comparative Analysis of Parikartika and Anal Fissure: Unraveling Diagnostic, Therapeutic, and Surgical Dimensions." *Clin Res Commun* 6.4 (2023): 20.
22. Asefa, Z., & Awedew, A. F. "Comparing closed versus open lateral internal sphincterotomy for management of chronic anal fissure: systematic review and meta-analysis of randomised control trials." *Scientific Reports* 13.1 (2023): 20957.
23. Chen, L., Shi, G. A., Wang, S., Dong, X., Zhang, C. R., Kang, L., & Lv, D. S. "Acupuncture at Cuanzhu (BL2) for persistent hiccups following laryngeal mask airway insertion under general anesthesia: A case series." *Medicine* 104.47 (2025): e45556.
24. Verma, S., Babar, S. C., Paliwal, A. A., Jadhav, M. P., Dushyant, P., Patil, V. B. H., ... & Babar, S. C. "Murivenna Taila Pichu and Ruksha Swedan-An Ancient therapy in the treatment of Acute Fissure-In-Ano wsr to Parikartika-A case report."
25. Alotaibi, H. "Surgical Aspects of Anal Diseases for Clinical Board Exams." *Study Surgery: A Guidance to Pass the Board Clinical Exam*. Singapore: Springer Singapore, (2021). 327-349.

Source of support: Nil; **Conflict of interest:** Nil.

Cite this article as:
Altimimi, M. L. M. "Meta-analysis of Optimizing Treatment Strategies with Investigating the Role of Local Anesthesia in Managing Hypertrophied Anal Papillae - A Study in General Surgery and Pharmacology." *Sarcouncil Journal of Medicine and Surgery* 5.1 (2026): pp 12-19.

Publisher: SARC Publisher