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Original Research Article

Feasibility of local anaesthesia in lateral internal anal sphincterotomy for chronic anal fissure

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ABSTRACT

Background: Fissure in Ano is one of the common and most painful anorectal conditions encountered in surgical practice. Inspite of several conservative treatment options, surgical treatment in the form of Lateral Anal Spincterotomy (LAS) remains the gold standard of treatment for Chronic Anal Fissures (CAF).
Methods: Prospective comparative study conducted on 90 patients randomly divided into two groups Group A under Local anaesthesia (LA) and Group B under Spinal anaesthesia (SA) respectively. The primary outcome variables studied were postoperative pain, hospital stay, and cost effectiveness.
Results: A total of 90 patients randomly divided into 45 patients in each group. There was no statistically difference in the pain at surgery, but post-operative pain was significantly less in LA group at 5th hour, 24 hours after surgery. Hospital stay in LA group is significantly less when compared to SA group (1.92, 3.75 respectively).
Conclusions: LAS can be comfortably performed under LA with added advantages.

Keywords: Anal sphinteretomy, Chronic anal fissure, Local anaesthesia

INTRODUCTION

Anal fissure is a common surgical condition that usually presents as anal pain and/or bleeding with defecation. Anal fissure is a linear defect, or laceration, in the anoderm. An acute fissure is a simple laceration whereas a chronic anal fissure is defined by these three findings – heaped up edges, a skin tag (sentinel tag), and hypertrophied papilla.[1]

Medical management is considered as the first line of treatment and internal anal partial sphincterotomy (open or closed), is reserved for chronic fissures that fails or recurs frequently after nonsurgical management.[2] Sphincterotomy using local anesthesia instead of spinal or general anesthesia has been proposed as an alternative method that does not lead to increases in associated morbidity or recurrence.[3,4] Until recently surgeons were hesitant to perform anal and rectal procedures in an ambulatory setting because of fear of postoperative pain and retention of urine

This study is aimed to compare postoperative outcome in local anesthesia with spinal anesthesia.

METHODS

Randamozied prospective comparative study conducted in SNMC and HSK hospital Bagalkot, from January 2016 to June 2017. This Study included a total of 90 patients, randomly divided into two groups each consisting of 45 patients.

Group A patients underwent under LA and Group B under SA. Informed written consent was taken for

procedure and ethical clearance was obtained. The data was analysed using statistical software SPSS.

Patients with diagnosed hypersensitivity to local anesthesia, Perineal infection in the area of local anesthesia, Patients on anticoagulant therapy and associated anal pathologies like incontinence, stenosis, fistula, hemorrhoids were excluded from study.

Group A- Surgery under Local Anesthesia - Patient in lithotomy position, under aseptic condition, parts is painted and draped. 15-20 cc 2% of local anesthesia, lignocaine hydrochloride without adrenaline is infiltrated using 25 G needle at ulcer bed, including skin and intersphinteric space at sphincterotomy site.

Group B- Surgery under spinal anesthesia - Intrathecal injection of 0.5% bupivacaine heavy is given at L3-L4 space in sitting position with aseptic measures.

All the patients underwent standard open lateral internal anal spincterotomy in lithotomy position irrespective of the groups. Intersphincteric groove was felt and radial incision was taken. Sphincter was divided to the length of fissure, under direct vision using surgical blade or electrocautery. Details regarding duration of hospital stay, intra and post operative pain, complications, patient and surgeons satisfaction were recorded.

RESULTS

Most of the patients were aged between 20 to 50 years in both groups.Maximum age in the study was 70yrs and minimum was 19yrs. In the group A, there were 57.8% males and 42.2% females and in group B, 60% were males and 40% were females. In group A minimum number of days stayed in hospital was 1 day, maximum was 3 days with mean 1.92 days. In group B minimum number of days stayed in hospital was 3 days, maximum was 5 days with mean 3.73 days. It was noted that surgery under local infiltration had discharged earlier compared to group B patients with p value <0.001, which is significant (Table 1).

Table 1: Number of days stayed in the hospital.

Days stayed					
Anesthesis	N	Minimum	Maximum	Mean	SD
Local infiltration	45	1.0	3.0	1.96	0.30
Spinal anaesthesia	45	3.0	5.0	3.73	0.72

Z = 8.6; P<0.001

Intra operative pain

Pain was assessed by using Visual analogue scale (VAS). All the patients operated under spinal aneathesia had no intra-operative pain, but the patients operated under local infiltration has intra-operative pain score 2 (VAS score 2). P<0.001 which is statically significant i.e. group A (local) patients had experienced more pain compared to group B (spinal) intra-op. Surgery under local infiltration had little more pain and discomfort due to lithotomy position as limbs are not paralysed, during giving local anesthesia, and during use of cuatery compared to spinal anesthesia (Table 2).

Table 2: Number of days stayed in the hospital.

VAS-intra operative	Local infiltration		Spinal anaesthesia		Total	
	Count	%	Count	%	Count	%
No pain	10	22.2	45	100.0	55	61.1
Mild pain	35	77.8	0	0.0%	35	38.9
Total	45	100.0	45	100.0	90	100.0

P <0.001

Post operative pain at 30 minutes

At 30 minutes of operation, patients operated under spinal anesthesia had no pain as they were still under effect of spinal anesthesia, whereas patients operated under local infiltration had VAS-2 in 11 patients (24.4%) and VAS-0 in remaining 34 patients (75.6%). P<0.001 which is statically significant i.e. group A (local) patients had experienced more pain compared to group B (spinal) at 30 min post-op (Table 3).

Table 3: Post operative pain at 30 minutes.

VAS post-operative 30 mins	Local infiltration		Spinal anaesthesia		Total	
	Count	%	Count	%	Count	%
0	34	75.6	45	100.0	79	87.8
2	11	24.4	0	0.0	11	12.2
Total	45	100.0	45	100.0	90	100.0

P <0.001

Post operative pain at 5 hours

At 5 hours after operation, patients operated under spinal anesthesia had VAS-2 in 7 (15.5%) patients and VAS-0 in 38 (84.5%) patients, whereas patients operated under local infiltration had VAS-2 in 10 patients (22.2%) and VAS-0 in remaining 35 patients (77.8%). P=0.419, which is not statically significant i.e. spinal anesthesia is wear off in group B at 5 hours post-operative period, and both group experienced same pain score (Table 4).

Table 4: Post operative pain at 5 hours.

VAS post-operative 5 hours	Local infiltration		Spinal anaesthesia		Total	
	Count	%	Count	%	Count	%
0	35	77.8	38	84.5	73	81.1
2	10	22.2	07	15.5	17	18.9
Total	45	100.0	45	100.0	90	100.0

P = 0.419

Post-operative pain at POD- 1

After one day, patients operated under spinal anesthesia had VAS-2 in 8 (17.8%) patients and VAS-0 in 37 (82.2%) patients, whereas patients operated under local infiltration had VAS-2 in 9 patients (20%) and VAS-0 in remaining 36 patients (80%). P=0.7977, which is not statically significant i.e. both group experienced same pain on post-op day one (Table 5).

Table 5: Post-operative pain on POD-1.

VAS post-operative POD – 1	Local infiltration		Spinal anaesthesia		Total	
	Count	%	Count	%	Count	%
0	36	80	37	82.2	73	81.1
2	09	20	08	17.8	17	18.9
Total	45	100.0	45	100.0	90	100.0

P = 0.7877

In the all the patients underwent open lateral internal sphincterotomy, about 80% of patients were free of symptoms like pain and bleeding during defecation on the next postoperative day. Rest 20% of patients had mild pain or bleeding during defecation, which are relieved on conservative treatment.

Studies done by Ahmed E et al showed that there was no significant difference in postoperative pain. Whereas study done by Towliat SM et al found a significant difference ($p<0.05$) in postoperative pain score after 6hours of LIS (group Local- 1.90±1.07, group Spinal- 1.90±1.07).

DISCUSSION

Medical management is the first line of treatment for fissure in ano. Even the in the advance of conservative management of chronic fissure in ano, the lateral internal sphincterotomy is considered as the gold standard. The surgical care definitely provides best healing rate and reduce the recurrence.The preference of anesthesia is also shifting towards the LA.[5-7] On other hand LA safely carried out by surgeon, and has virtually no complications.[5]

It is generally accepted that today the majority of minor ano rectal diseases such as chronic Anal fissure should be performed on ambulatory basis.

Requirements for ambulatory basis are: rapid onset, lack of intra operative and post-operative complications.[8] We all know that spinal anaesthetic associated with hypotension more than 33% and bradycardia around 13%. However, postdural puncture headache is most common complication of spinal anaesthesia and although not life threatening, restricting daily life and causing hospital admission. In our study also, hospital stay is statistically significant ($p<0.001$).

Bell from the University of British Columbia is of opinion that as the experience of surgeon increases, so does his confidence and ability to perform the lateral internal Anal sphincterotomy under LA.[9] In present study we firmly believe that patient with Anal fissure should be admitted to hospital one day prior to surgery, those patients underwent under spinal anaesthesia and post-operative recovery requires 3-5 days added 1-week rest at home. So, total loss of work may be two weeks, while patients operated under LA admitted on same day of surgery and discharged on same on ambulatory basis. All in all, pain is one of the postoperative complications that leads to longer hospital stay.[10]

Internal sphincter is not relaxed under LA. As the sphincter is in spasm, the length of the sphincter could be appreciated easily and the adequacy of the length of division verified distinctly. This benefit is lacking under spinal or general anaesthesia where the sphincter is fully relaxed, presenting difficulties in defining its length. Since, we performed conservative or limited sphincterotomy in the study, defining the length of the sphincter carried major importance. Longer division of sphincter would lead to a higher rate of incontinence while shorter division may not relieve the spasm or heal the fissure.[11]

Considering the cost of pre-operative evaluation, surgery cost and postoperative medications and stay in spinal group patients spent atleast three times more money than the local group patients for the same surgery. This carries greater significance in this setting where most of the patients come from poor economic backgrounds. In view of these benefits with LA, Hiltunen and Matikainen called it ambulatory treatment for CAF where patients were allowed to leave the clinic immediately after the surgery.[12]

CONCLUSION

Better postoperative pain relief could be achieved by local anaesthesia in ambulatory surgery in lateral anal sphincterotomy. LA provides adequate pain relief for the procedure apart from the advantage of easy palpability of the sphincter. It can be done as an Outpatient procedure without the need for an anaesthetist. There is no significant difference in the complications or the healing of the fissure as compared to SA, but LA procedure carries a significant cost benefit.

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REFERENCES

1. Sarkar S, Kapur N. Lateral internal sphincterotomy under local and spinal anaesthesia for chronic anal

fissure: A randomised control trial. Hellenic J Surg. 2016 Nov 1;88(6):398-401.
2. Jonas M, Scholefield JH. Anal fissure. Clin Evid. 2004;11:533-43.
3. Gordon PH, Vasilevsky CA. Symposium on outpatient anorrectal procedures. Lateral internal sphincterotomy: rationale, technique and anesthesia. Can Surg. 1985;28:228-30.
4. Hiltunen KM, Matikainen M. Closed lateral subcutaneous sphincterotomy under local anaesthesia in the treatment of chronic anal fissure. Ann Chir Gynaecol. 1991;80:353-6.
5. Sanchez Romero A, Arroyo Sebastian A, Perez Vicente F, Serrano Paz P, Candela Polo F, Tomas Gomez A, et al. Open lateral internal anal sphincterotomy under local anaesthesia as the gold standard in the treatment of chronic anal fissures. A prospective clinical and manometric study. Rev Esp Enferm Dig. 2004;96(12):856-63.
6. Arroyo A, Perez F, Serrano P, Candela F, Calpena R. Open versus closed lateral sphincterotomy performed as an outpatient procedure under local anaesthesia for chronic anal fissure: prospective randomized study of clinical and manometric longterm results. J Am Coll Surg. 2004;199(3):361-7.
7. Liratzopoulos N, Efremidou EI, Papageorgiou MS, Kouklakis G, Moschos J, Manolas KJ, et al. Lateral subcutaneous internal sphincterotomy in the treatment of chronic anal fissure: our experience. J Gastrointestin Liver Dis. 2006;15(2):143-7.
8. Gudityte J, Marchertiene I, Pavalkis D. Anesthesia for ambulatory for anorectal surgery. Medicina (Kaunas). 2004;409:101-11.
9. Bell GA. Lateral internal sphincterotomy in chronic anal fissure--a surgical technique. The American Surgeon. 1980.46:572-75.
10. Briggs M, Closs JS. A descriptive study of the use of visual analogue scales and verbal rating scales for the assessment of postoperative pain in orthopedic patients. J Pain Symptom Manage. 1999;18(6):438-46.
11. Murad-Regadas SM, Fernandes GO da S, Regadas FSP, Rodrigues LV, Pereira J de JR, Regadas Filho FSP, et al. How much of the internal sphincter may be divided during lateral sphincterotomy for chronic anal fissure in women? Morphologic and functional evaluation after sphincterotomy. Dis Colon Rectum. 2013;56(5):645-51.
12. Hiltunen KM, Matikainen M. Closed lateral subcutaneous sphincterotomy under local anaesthesia in the treatment of chronic anal fissure. Ann Chir Gynaecol. 1991;80(4):353-6.

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