



TO COMPARE THE OUTCOME OF MINOR ANORECTAL SURGERIES UNDER LOCAL ANAESTHESIA VERSUS SPINAL ANAESTHESIA

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ABSTRACT

Back Ground: Minor anorectal disease constitutes quite large percentage of cases in surgical out patient department (OPD). This study helps to know the effectiveness of local anaesthesia for day care surgery. **Study design:** comparative study **Materials and Methods:** A total of 60 patients were randomly selected into group A (local anaesthesia) and group B (spinal anaesthesia) who underwent minor anorectal surgeries. Each patient's detailed history, physical examination, operative details, postoperative complications, length of hospital stay, pain scores, analgesic requirements, and patient satisfaction scores were collected. **Results:** There were 20 female and 40 male in the study. The mean age was 39.53 and 43.17 in group A and group B respectively. The main presenting symptom was bleeding in 26.7% and 60%, mucous discharge in 23.3% and 6.7%, and pain 46.7% and 13.3% in group A and group B respectively. Out of the study group 60% patients were on non-vegetarian diet, which shows a significant increase in patients with low fibre diet. This is further emphasized by the fact that 60% of the patients suffer from constipation. Urinary retention was significantly higher in the group receiving spinal anaesthesia (group B). 30% patients in group B and 6.7% in group A had post operative retention. Post operative pain score was measured by a scale from 0-10 (0=no pain, 10=severe pain). The mean patient satisfaction score was 9.31 (0=poor satisfaction 10=excellent satisfaction). Data about the number of doses of oral/parenteral analgesics were recorded. Patient subjective success was assessed. Hospital stay was significantly decreased in group A (p value 0.02). 93.3% patients in this group were discharged on day 1 whereas 70% of group B were discharged on day 1. There was no mortality, incontinence, faecal urgency, and persistent pain. **Conclusion :** The current study was aimed to analyse the feasibility and utility of using alternate method of anaesthesia in patients undergoing surgeries for minor anorectal ailments. The results of this study were in accord with the previous studies. The use of local anaesthesia in these surgeries was found to be beneficial in terms of hospital stay, postoperative complications such as urinary retention. The technique had no significant difference in post operative pain, perioperative complications and patient satisfaction. Hence it can be concluded that local anaesthesia is a safe and advantageous technique in performing minor anorectal surgeries.

KEY WORDS : Local anaesthesia, spinal anaesthesia, Haemorrhoidectomy, Sphincterotomy, Fistulectomy.



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INTRODUCTION

Anorectal surgeries constitute one of the most frequent surgeries performed by the surgeons. Though usually considered as minor surgeries, the associated morbidity of these procedures can be quite debilitating. Traditionally these surgeries have been conducted under spinal anaesthesia which entails numerous post operative issues. One of the most important of these is the long post – operative hospital stay which constitutes a significant psychological and financial burden. Also, the incidence of urinary retention, hypotension and post spinal headache are a worrisome feature in the geriatric age groups and the patients suffering from co- morbid conditions(1,2). Until recently surgeons were hesitant to perform anal and rectal procedures in an ambulatory setting because of fear of post operative pain and voiding (Micturition / urination) difficulties by males. This attitude has slowly changed due to better control of pain by longacting local anaesthetic drugs and the realisation that catheterization be done if the need be and discharged. Removal of catheter later on in the surgeon's office does not pose much problem. Due to increase in experience and confidence many patients with anorectal diseases are now enjoying the benefits of surgery under local anaesthesia. More than 90% of anorectal surgeries can be done successfully on an ambulatory basis with greater convenience and economy without sacrificing of comfort or safety(3). Hence the current trend is towards conducting these surgeries under the local anaesthesia. This study is aimed at comparing the advantages and disadvantages of conducting minor anorectal surgeries under local anaesthesia versus spinal anaesthesia.

MATERIALS AND METHODS

A minimum of 60 cases admitted to Medical college teaching hospital, patients[Delete]

were selected randomly for anorectal surgeries under local and spinal anaesthesia.

Selection criteria:

In this study I have taken 60 patients with symptoms and proctoscopic findings low fistula in ano ,fissure in ano,haemorrhoids Grade 2 and 3 selected randomly. After taking informed consent patients were divided into two groups of 30 patients each- Group-A & Group-B. Group-A patients included random set of 30 patients who underwent minor anorectal surgeries under local anaesthesia.Group-B patients included random set of 30 patients who underwent minor anorectal anaesthesia under spinal anaesthesia. The patients who presented with bleeding per rectum, mass per rectum, pain in the anal region and constipation. Patients with the above symptoms are admitted to surgical ward with diagnosis low fistula in ano,fissure in ano,haemorrhoids Grade 2 and 3 .A detailed relevant clinical history (Diet & Bowel habits) was taken and physical examination along standard lines including general, systemic and local examination was done. A digital rectal examination and proctoscopy was done and data recorded on a proforma (Annexures). The present study indicates the bowel habits of both the groups. The etiological aspects in terms of diet - containing low fibre, defecatory habits, family history . After routine investigations and fitness the cases were prepared for surgery.

Type of anaesthesia:

The procedure was performed with the patient in jack-knife/lithotomy position. Patients were monitored with a pulse oximeter. preoperatively, bowel preparation, or antibiotics were given. Local anesthesia (Pudendal and perianal block using 2% lignocaine or .5% bupivacaine) was injected with a 25G needle, infiltrating the skin, intersphincteric space, internal anal sphincter,

and submucosa on the left and right sides, as well as the bed of the fissure in group-A and spinal anaesthesia in group-B Spinal anaesthesia was given using Sensorcaine at L2-L3 space Post operative period was monitored carefully. All the patients in both the groups received iv tramadol hydrochloride two doses and then oral tramadol hydrochloride twice a day for 5 days. Details regarding patients complaints, duration of incapacity to work and the complications were recorded. The patients were advised to come for follow up at first week of 3rd and 6th months. They were advised to come earlier in case they noticed any complications. The results are

tabulated mainly stressing on following points. Age and sex distribution, probable causative factor, degree of hemorrhoids, low anal fistula, fissure in ano complications in each technique.

RESULTS

Study Design: A Comparative Study consisting of 60 patients, 30 patients in Group A (Local Anesthesia) and 30 in Group B (Spinal Anesthesia) is undertaken for the study.

Table 1
Comparison of age in years

Age in years	Group A		Group B		Combined	
	No	%	No	%	No	%
20-30	9	30.0	6	20.0	15	25.0
31-40	7	23.3	8	26.7	15	25.0
41-50	7	23.3	6	20.0	13	21.7
51-60	7	23.3	8	26.7	15	25.0
>60	-	-	2	6.7	2	3.3
Total	30	100.0	30	100.0	60	100.0
Mean ± SD	39.53±11.71		43.17±12.70		41.35±12.25	

Two groups are age matched with P=0.254

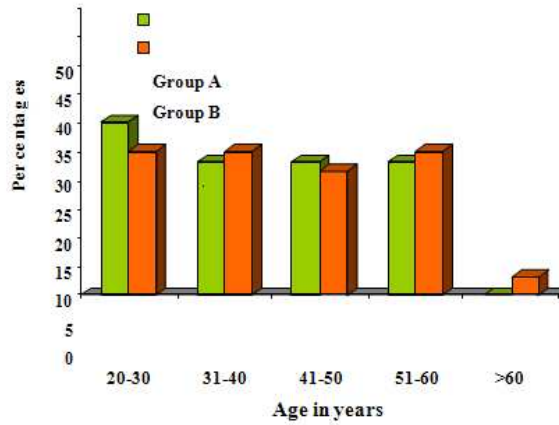


Figure 1
Comparison of age in years

Table 2
Comparison of Gender of patients studied

Gender	Group A		Group B		Combined	
	No	%	No	%	No	%
Male	20	66.7	20	66.7	40	66.7
Female	10	33.3	10	33.3	20	33.3
Total	30	100.0	30	100.0	60	100.0

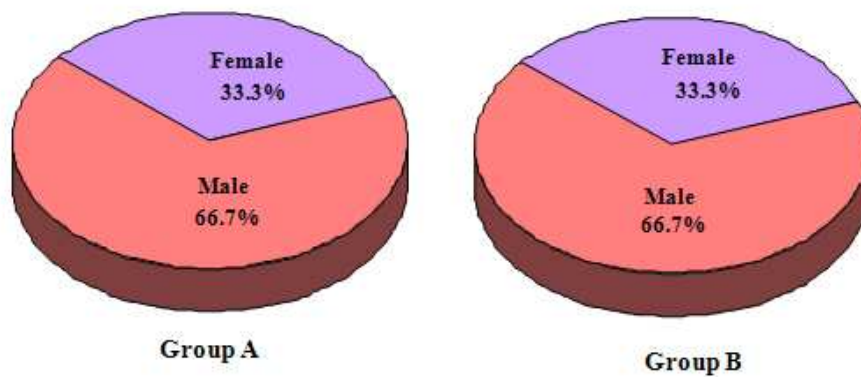


Figure 2
Comparison of Gender of patients studied

Table 3
Comparison of Presenting complaints patients studied

Presenting complaints	Group A (n=30)		Group B (n=30)	
	No	%	No	%
Bleeding per rectum	8	26.7	18	60.0
Pain while passing stool	14	46.7	4	13.3
Mass per rectum	-	-	3	10.0
Mucus discharge	7	23.3	2	6.7
Constipation	1	3.3	-	-

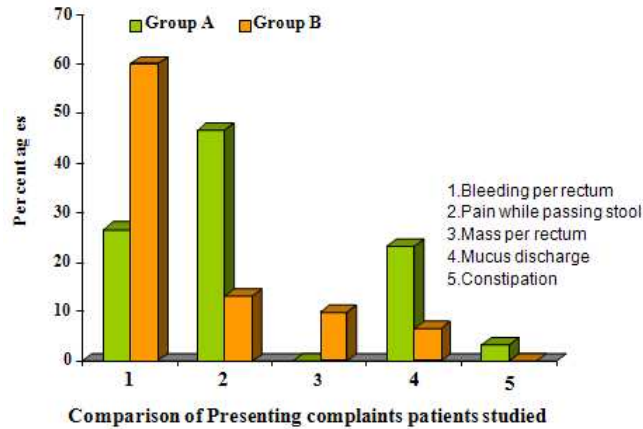


Figure 3
Comparison of Presenting complaints patients studied

Table 4
Comparison of Duration patients studied

Duration	Group A (n=30)		Group B (n=30)	
	No	%	No	%
≤ 6 months	30	100.0	12	40.0
6-12 months	-	-	13	43.3
>12 months	-	-	5	16.7

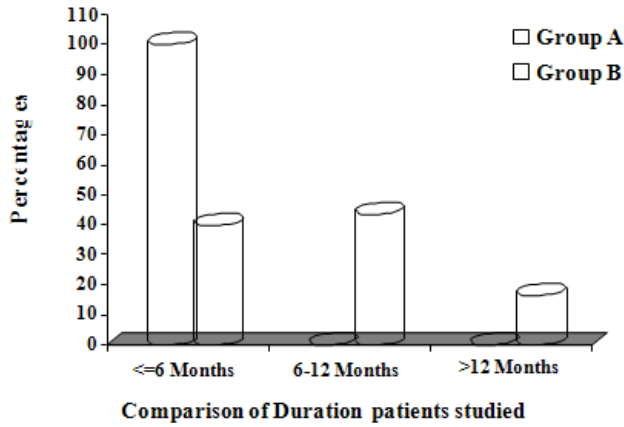


Figure 4
Comparison of Duration patients studied

Table 5
Comparison of Bowel habits patients studied

Bowel habits	Group A (n=30)		Group B (n=30)	
	No	%	No	%
Normal	11	36.7	13	43.3
Constipation	19	63.3	17	56.7

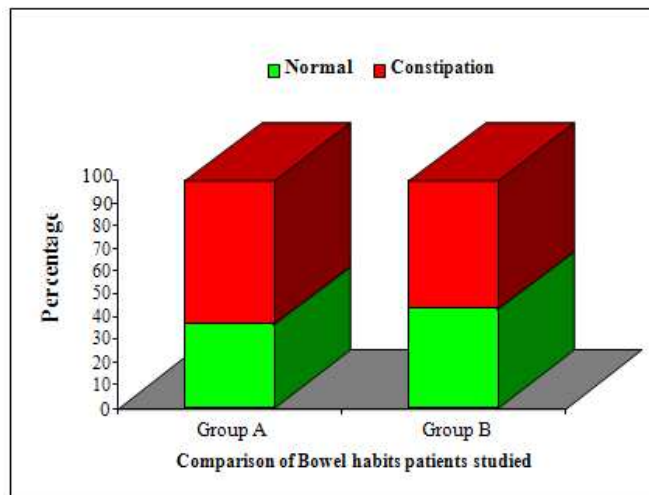


Figure 5
Comparison of Bowel habits patients studied

Table 6
Comparison of Diet patients studied

Diet	Group A (n=30)		Group B (n=30)	
	No	%	No	%
Vegetarian	11	36.7	13	43.3
Mixed	19	63.3	17	56.7

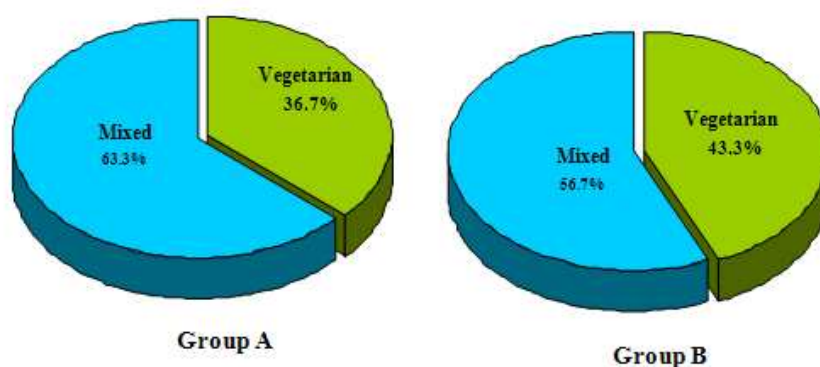


Figure 6
Comparison of Diet patients studied

Table 7
Comparison of Initial diagnosis patients studied

Initial diagnosis	Group A (n=30)		Group B (n=30)	
	No	%	No	%
Ant fissure in ano	6	20.0	3	10.0
Internal Hemorrhoids	8	26.7	16	53.3
Low ant fistula in ano	6	20.0	-	-
Low fistula in ano	-	-	4	13.3
Post fissure in ano	10	33.3	7	23.3

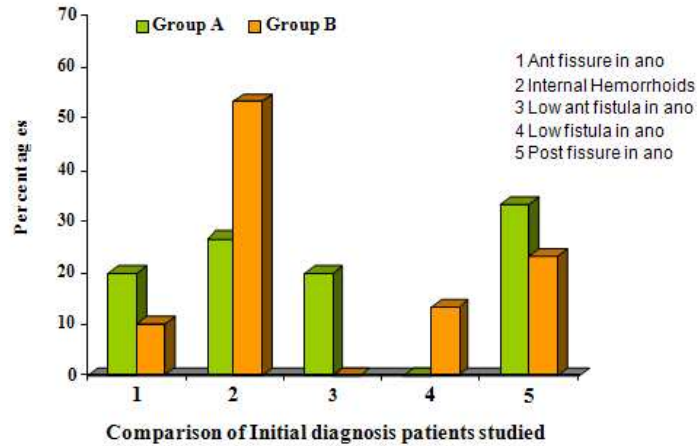


Figure 7

Comparison of Initial diagnosis patients studied

Table 8

Comparison of Procedures patients studied

Procedures	Group A (n=30)		Group B (n=30)	
	No	%	No	%
Fistulectomy	6	20.0	4	13.3
Lateral Int Sphincteromy	16	53.3	10	33.3
Open haemorrhoidectomy	8	26.7	16	53.3

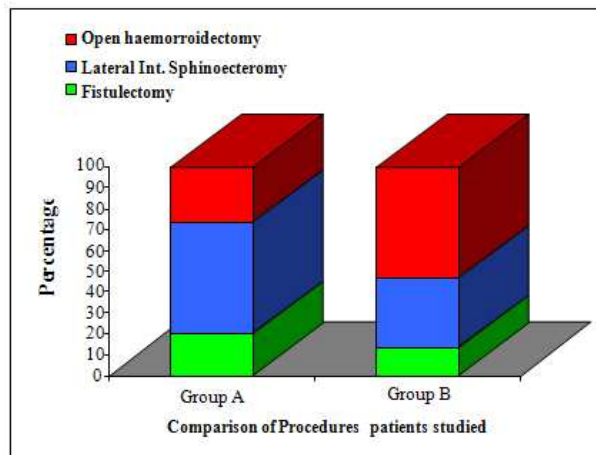


Figure 8

Comparison of Procedures patients studied

Table 9
Comparison of Postoperative pain in two groups of patients

Post-operative pain	Group A	Group B	P value
Day 1	5.40±0.68	5.37±0.62	0.841
Day 7	1.17±0.38	1.17±0.38	0.999
P value	<0.001**	<0.001**	-

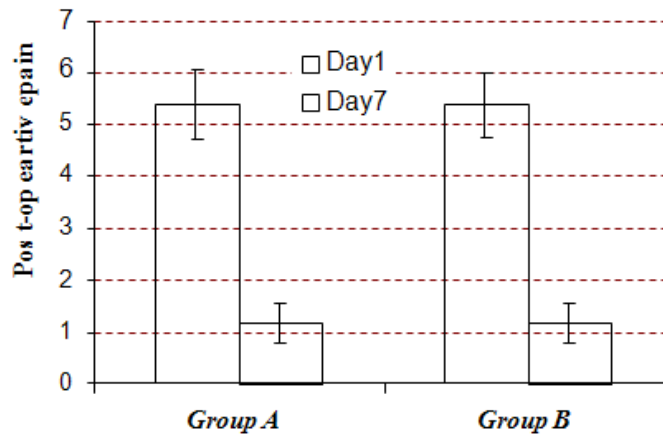


Figure 9
Comparison of Postoperative pain in two groups of patients

Table 10
Comparison of post operative complications

Post-op complications	Group A		Group B		P value
	No	%	No	%	
Fecal urgency and incontinence	-	-	-	-	-
Urinary Retention	2	6.7	9	30.0	0.020*
Minor Bleeding	2	6.7	2	6.7	1.000
Mortality	-	-	-	-	-

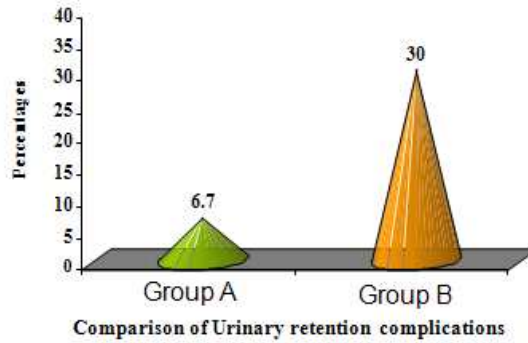


Figure 10a

Comparison of Urinary retention complications

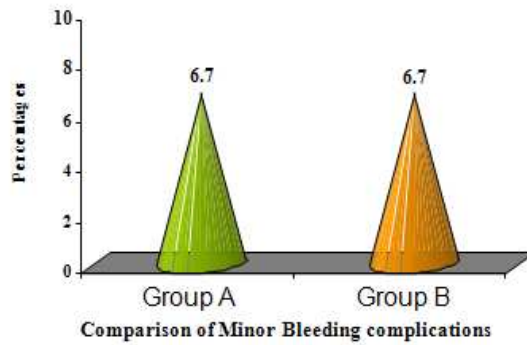


Figure 10b

Comparison of Minor Bleeding complications

Table 11

Comparison of Success rates

Success	Group A		Group B		P value
	No	%	No	%	
Excellent	7	23.3	7	23.3	1.000
Good	22	73.3	21	70.0	0.774
Fair	1	3.3	2	6.7	1.000

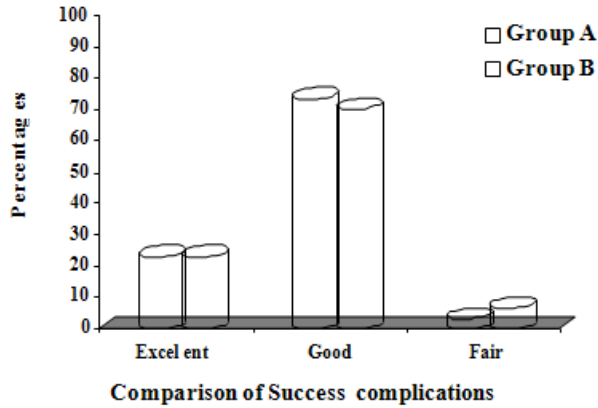


Figure 11
Comparison of Success complications

Table 12
Complications at 3 months and 6 month Follow up

Follow up status	Group A	Group B
At 3 months	Nil	Nil
At 6 months	Nil	Nil

Table 13
Comparison of Discharge

Discharge	Group A (n=30)	Group B (n=30)
Day 1	28 (93.3%)	21 (70.0%)
Day 2	2 (6.7%)	9 (30.0%)
Inference	Discharge at day2 is significantly more in Group B with P=0.020*	

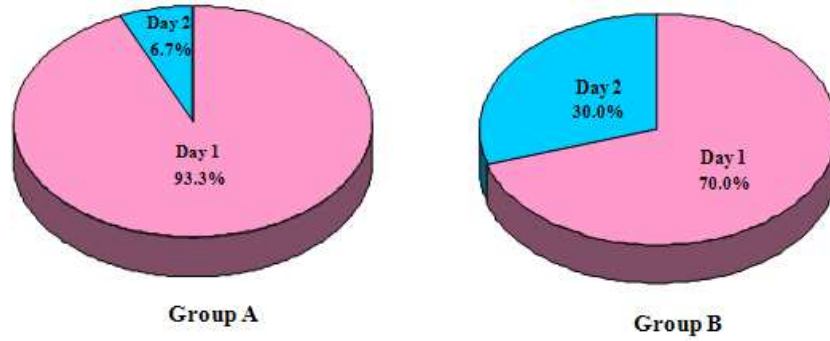


Figure 13
Comparison of Discharge

Table 14
Comparison of patient Satisfaction

Patient satisfaction	Group A (n=30)	Group B (n=30)
Range	9-10	9-10
Mean \pm SD	9.33 \pm 0.48	9.36 \pm 0.47
Inference	Patient satisfaction is statistically similar between two groups with P=0.828	

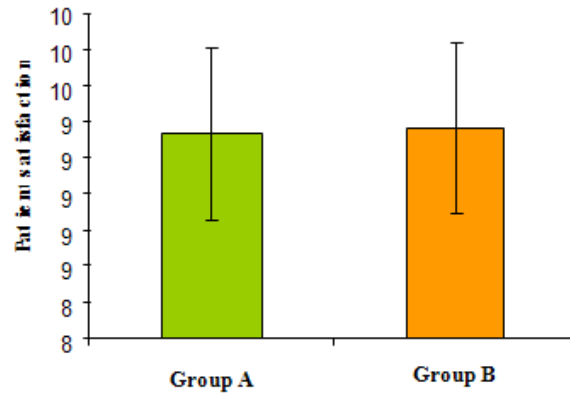


Figure 14
Comparison of patient Satisfaction

NOTE: tatistical analysis was done using Chi- quare test.

DISCUSSION

Minor anorectal ailments such as haemorrhoids, fissure in ano and fistula in ano. Conventional haemorrhoidectomy involves excision of the prolapsed haemorrhoids and is usually associated with severe pain. There is a wide variation in practice regarding the hospital stay following conventional haemorrhoidectomy. This depends on economic constraints, the culture of the population, and the home environment of patients. Hospital stay following conventional haemorrhoidectomy can range from a few hours after the operation to a mean stay of more than 6 days. Despite ambulatory surgery for conventional haemorrhoidectomy being practised in some centres, many patients prefer to be admitted to hospital if possible(4). This possibly reflects concern regarding the management of severe pain, the need for wound care, and the fear of complications following haemorrhoidectomy. The control of post-haemorrhoidectomy pain has always been the main concern for the surgeon, and tremendous efforts have been made to reduce the pain in order to render haemorrhoidectomy possible as an ambulatory procedure. There have been attempts to modify the surgical technique, such as using diathermy(5), a harmonic scalpel(6), or Ligasure(7)(Valleylab, Boulder, US) for the excision of haemorrhoids. Surgical or medical means to reduce the sphincter muscle spasm have also been tried to reduce postoperative pain(8,9,10). Different forms of analgesia and anaesthesia have also been used(5,8,9,10). Furthermore, postoperative antibiotics to reduce infection have been shown to be effective in reducing postoperative pain(11). Despite these approaches, the primary cause of pain—the trauma to the pain-sensitive perianal skin and the anal epithelium during excision of haemorrhoids is still present, and pain reduction is usually limited. Haemorrhoids are now regarded as cushions of fibrous and vascular

tissue at the anal canal that become symptomatic when prolapse occurs(12). Stapled haemorrhoidectomy, introduced by Longo(13), involves resection of a ring of tissue containing the mucosa and submucosa of the rectum well above the dentate line, with immediate closure of the defect with the circular stapler. The haemorrhoids are not excised but, by resecting the prolapsed rectal mucosa, the prolapsed haemorrhoids are restored to their normal anatomical position. Thus, stapled haemorrhoidectomy appears to deal with the basic pathophysiology of prolapsed anal cushions. The absence of a wound and subsequent potential infection at the perianal area helps to reduce postoperative pain following stapled haemorrhoidectomy. Moreover, wound care is not necessary, as the staple line is in the rectum. Several randomised controlled trials have previously shown that pain scores are significantly lower in patients with stapled haemorrhoidectomy compared with those undergoing conventional haemorrhoidectomy. Shorter hospital stays as well as a more rapid return to normal activities has also been reported(14,15). In most randomized trials, however, patients were mainly treated as in-patients rather than in an ambulatory setting(4). With the significant reduction of postoperative pain achieved and without the need for wound care, stapled haemorrhoidectomy should now be considered feasible as a day-surgery procedure. In this study the mean age of patients was 45.97 ± 16.46 of which male patients constitutes 65.7% of the study & female patients constitutes 34.3%. mean duration of symptoms is 11.4 %. main presenting complaints in this is bleeding per rectum which constitutes 65.7% & least presenting is mass per rectum 22.9%. the patients in this study consumed mixed diet and constitute 82.9% & 57.1% presented with constipation. The patients in this study had grade II 40% , grade III 57% & grade IV 2.9% respectively . Majority of patient had internal

haemorrhoids 77.8% & combination of internal & external haemorrhoids is 11%. Stapler haemorrhoidectomy can be done for both internal & external haemorrhoid. The procedure can be performed under local, spinal or general anaesthesia. In this study 88.6% has under the procedure under spinal anaesthesia. This study confirms that stapled haemorrhoidectomy is a safe procedure, without the presence of serious complications. The operating time in this study was longer when compared with other studies. For most patients, the stapling could be finished within 15 minutes. Extra surgical time was used to secure haemostasis by plication of bleeding sites from the staple line, however. Meticulous haemostasis is particularly important for day-surgery patients to avoid primary haemorrhage requiring surgical treatment. In this series, there was two cases of minor bleeding and pain. This patient was conservatively treated without blood transfusion or further surgery. These two patients were kept for observation and discharge on next day.

Complications following stapled haemorrhoidectomy are mostly urological. Urinary retention is one of the most important reasons for hospital stay and re-admission following haemorrhoidectomy. Urinary retention occurred in 5.7% of patients in this series and no difference was noted between day-surgery and in-patient groups. This rate is relatively low when compared with other series involving conventional haemorrhoidectomy (16). Several studies reported urinary retention in 16% of patients following anorectal surgery and 34% of patients following haemorrhoidectomy. These authors suggested that there was a correlation between urinary retention and the degree of pain. With the

significant reduction in pain associated with stapled haemorrhoidectomy, the incidence of urinary retention could theoretically be expected to be lower. There have been no previous reports on the impact of stapled haemorrhoidectomy on the incidence of urinary retention however, although, this may be due to the small numbers of patients in most studies to date. In this study the post operative pain on day 1 ranges from 4/10 to 7/10 these results were similar with study of WL law et al, the complications, analgesic requirements are similar to that of study conducted by Amosid et al, in this study subjective success is excellent in 25.7% & good in 68.6% respectively. In this study 94.3% of patient had discharge on the same day and only 2 patients 5.7% on day second. Subjective success following surgery were Excellent in 25.7%, Good in 68.6, Average in 5.7% respectively. These patients were followed up for 12 months no complications were noted.

CONCLUSION

The current study was aimed to analyse the feasibility and utility of using alternate method of anaesthesia in patients undergoing surgeries for minor anorectal ailments. The results of this study were in accord with the previous studies. The use of local anaesthesia in these surgeries was found to be beneficial in terms of hospital stay, postoperative complications such as urinary retention. The technique had no significant difference in post operative pain, perioperative complications and patient satisfaction. Hence it can be concluded that local anaesthesia is a safe and advantageous technique in performing minor anorectal surgeries

REFERENCES

1. Griffin J F. 1989 'Anaesthesia for ambulatory anorectal surgery Current Surgical Therapy-3'. Philadelphia: B C Decker Inc, London.

2. Hoff S D, et al "Ambulatory surgical haemorrhoidectomy—a solution to postoperative urinary retention?" *Dis Colon Rectum* 1994; 37:1242-4.
3. Bailey H R, Ferguson J A. "Prevention of urinary retention by fluid restriction following anorectal operations". *Dis Colon Rectum*. 1976; 19:250-2.
4. Gordon PH. Gordon PH, Nivatvongs S, 1999. 'In *Principles and Practice of Surgery for the Colon, Rectum and Anus*,' 2nd edition. *Quality Medical Publishing, publications*. London. 587-89.
5. Jackson and Robertson., "Etiology of hemorrhoids" *Diseases of Colon and Rectum*. 1965 8:185-9.
6. Rangabhashyam N, Manohar V. "Etiopathogenesis of hemorrhoids in Madras" *Indian Journal of Surgery*. 1978; 40(6):305
7. Haas PA et al " The pathogenesis of hemorrhoids" *Diseases of Colon and Rectum*" 1984.27:442-450.
8. Keighley MRB, Williams NS Ed. 1993 'Surgery of the anus, rectum and colon', WB Saunders Co. Ltd. London.pp 262-5.
9. Jacobs OM, Rubrick MP, Onstad GR 1980 " The relationship of hemorrhoids to portal hypertension " *Diseases of Colon and Rectum* 23:567.
10. Hancock BO, Smith K 1975 " The internal sphincter & Lord's procedure for hemorrhoids" *British Journal of Surgery* 62:833-6.
11. Neratm V et al. Hemorrhoidectomy Vs conventional Hemorrhoidectomy". *Lancet*. 1985; 355: pp.781
12. Pescatori-M, "Ann-Ital-Chir. 1995 nov-dec;" "Closed Hemorrhoidectomy", Italy, 66(6) : 787-90.
13. Leong AF, Seow-Choen F. 1995 "Lateral sphincterotomy compared with anal advancement flap for chronic anal fissure". *Dis Colon Rectum*; 38: 69-71.
14. Dodi G, Pirone E, Cavallari F 1995 " Sclerotherapy & elastic band ligation of hemorrhoids" *Annali italiani di chirurgia* 66(6):769-73.
15. Park AG, 1956. " The surgical treatment of hemorrhoids" *British Journal of Surgery* 43 : 180:337 -51 .
16. Nyam DC, Pemberton JH. 1999 "Long-term results of lateral internal sphincterotomy for chronic anal fissure with particular reference to incidence of fecal incontinence". *Dis Colon Rectum*; 42: 1306-10