

Comparison of local anaesthesia versus spinal anaesthesia for peri anal disorders

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Abstract

Background: Peri anal disorders are associated with high morbidity and can be managed surgically both under spinal as well as local anaesthesia. **Objectives:** The study evaluates the results of anal surgery when performed under local anaesthesia as compared to spinal anaesthesia with respect to parameters like post operative pain, nausea, vomiting, analgesia requirement, voiding problem and bleeding. **Material and Methods:** The study included 50 patients divided in two groups (A and B) of 25 each. The patients of group A and group B were operated under local and spinal anaesthesia respectively. The patients were assessed postoperatively at 6 hrs, 8 hrs and 12 hrs on day one and then on subsequent days for different parameters like post operative pain, need and duration of analgesia required, bleeding, voiding problems and associated nausea. The results of two groups were then compared and analysed. In group A 56% of patients required analgesia 8 hourly as compared to 40% in group B. No analgesics were required 3 days after the surgery in both the groups. Difficulty in voiding was seen in 12% of patients in group A as compared to 28% in group B. There was no post operative bleeding except for 4 patients in group A. Most of the patients of group A had hospital stay of 2.3 ± 0.46 days postoperatively while those in group B stayed for 3.4 ± 0.53 days. **Conclusion:** The study reveals favoured local anaesthesia over spinal anaesthesia for peri anal surgeries because of simplicity in administration of anaesthetic agent, less need of analgesia, lesser hospital stay, lesser incidence of nausea and vomiting and no need for catheterisation.

Keywords: Spinal anaesthesia, Anal surgeries, Post operative analgesia, Local anaesthesia

Introduction

Although conditions arising in anal region are usually benign but they may be incapacitating and affect the quality of life. Besides, these disorders can often be misdiagnosed and maltreated, sometimes leading to serious consequences. Most commonly encountered disorders of anal region include anal fissures, haemorrhoids, anal fistulas, peri-anal abscess, warts, polyps and tumours of ano-rectum.

The surgical procedures for these disorders can be performed under either local anaesthesia or spinal anaesthesia. Various surgeons have successfully done these anal surgeries using only local anaesthesia since

1954 [1]. There are growing evidences suggesting that the use of local anaesthesia in anorectal surgery enables the surgery to be a day care procedure [2].

There is no doubt that presently spinal anaesthesia is deep rooted and well established technique and no other technique can put it aside totally. Even then, local anaesthesia has emerged as an appropriate alternative for anal surgery. Spinal anaesthesia itself harbours related complications like spinal shock, cauda equine injury, hypotension, hypothermia, spinal headache and cardiac arrest [3].

With advancing age, functional derangement of cardiovascular and other body systems make the patient unfit for spinal anaesthesia necessitating the use of local

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anaesthesia. Besides, the procedure of spinal anaesthesia requires special position of patient, skilled anaesthetist, certain angulation of operative table and particular technique of drug administration.

Local anaesthesia is preferred over spinal or general anaesthesia because of simplicity in administration, minimum equipment involved, less post operative care. Also, it is cost effective and free from undesirable side effects of spinal or general anaesthesia. The technique of local anaesthesia has a short learning curve. Less post operative pain helps early ambulation and decreased post operative complications like urinary retention shorten the hospital stay [4].

Adverse effects of local anaesthesia can be seen on CNS, CVS and respiratory system. These reactions result from absorption of toxic amount of drug via blood stream into CNS causing convulsions, drowsiness and unconsciousness.

Aims and Objectives

The study was conducted to evaluate the results of anal surgery when performed under local anaesthesia as compared to spinal anaesthesia with respect to parameters like post operative pain, nausea, vomiting, analgesia requirement, voiding problem and bleeding.

Material and Methods

The study included 50 patients of age more than 14 years and irrespective of their sex. They were divided into two groups of 25 each. Patients in group A were treated under local anaesthesia while those in group B were given spinal anaesthesia. Patients with history of

hypertension, obesity, cardiac impairment, neuro-muscular disorder or pregnancy were excluded.

After informed consent all the patients were assessed preoperatively. Patients in group B were subjected to pre-anaesthetic check up to get their fitness for spinal surgery. All the patients were admitted in the hospital a day or two before surgery. PC enemas were given a night before surgery. Group B patients were kept on absolute fasting while group A, patients were allowed a cup of tea in the morning.

Operative Technique: All patients of group A were made to lie in left lateral position on operation table and 5% xylocaine ointment was instilled into anal canal 10-15 minutes before the commencement of surgery.

Intravenous line was established for pre-operative antibiotic and midazolam administration. Local anaesthetic solution consisted of 20ml of 2% lignocaine, 20ml of 0.5% bupivacaine, and 10ml of 7.5% soda bicarbonate diluted with 50ml of normal saline.

Then the patients were made to lie prone in Jack knife position with buttocks apart and perianal skin infiltrated with freshly prepared with anaesthetic solution circumferentially with No. 26 FG needle. The surgery was done after 5-7 minutes.

After surgery patients of both the groups were analysed for different parameters such as pain (VAS score) [5], need of analgesia, voiding problems and more. The results were than analysed and compared for both the groups.

Observation and Results

It was observed that disease was more prevalent in the age group of 31-50 years and males (92%) were more frequently involved. 56% of patients under study had haemorrhoids, 24% had anal fistulas, 16% presented with anal fissure and only 4% had anorectal abscess.

Table-1: Sex Distribution and comparison of age in years.

Gender	Group A		Group B	
	No.	%age	No.	%age
Males	14	56	23	62
Female	11	44	2	8

$X^2 = 9.921; df = 1; p = 0.002 (S)$

Age group (years)	Group A		Group B	
	No.	%age	No.	%age
<20	0	0	3	12
21-30	5	20	4	16
31-40	6	24	5	20
41-50	8	32	6	24
51-60	1	4	4	16
61-70	3	12	2	8
71-80	2	8	0	0

VAS score was used to assess the severity of pain 12 hours post operatively and then after every 8 hours. The score was <6 in both the groups. In group A 56% of patients required analgesia 8 hourly and 44% of patients needed the same every 12th hour. While in group B only 40% of patients needed analgesia at 8 hours and remaining 60% had analgesia after every 12 hours.

Nausea and vomiting was observed in 26% cases in group A and 30% in group B. No analgesics were required 3 days after the surgery in both the groups. Difficulty in voiding was seen in 12% of patients in group A as compared to 28% in group B. There was no post operative bleeding except for 4 patients in group A.

In group A oral feeding was started after 6, 8 and 12 hours in 24%, 56% and 20% respectively. While in group B, oral feeding was not started for 12 hours in 68% of patients due to fear of nausea and vomiting. However, 32% of patients were allowed feeding after 8 hours. Most of the patients of group A had hospital stay of 2.3±0.46 days postoperatively while those in group B stayed for 3.4±0.53 days.

Table-2: Disease pattern in both the groups.

Diagnosis	Group A		Group B	
	No.	%age	No.	%age
Haemorrhoids	13	52	14	56
Fissure in ano	8	32	4	16
Fistula in ano	1	4	6	24
Anorectal abcess	1	4	1	4
Anal warts	1	4	0	0
Leucoplacia anal verge	1	4	0	0

Table-3: VAS comparison in both the groups.

VAS	Group A		Group B	
	No.	%age	No.	%age
0-2	7	28	3	12
3-4	14	56	12	48
5-6	4	16	10	40
7-8	0	0	0	0
9-10	0	0	0	0

p>0.05 (NS)

As far as requirement for analgesia is concerned, in group A 6 patients needed it for 1 day, and 17 patients for 2 days. After 3 days no patient required any analgesia. While in group B 8 patients needed analgesia for 1 day and 15 for 2 days [Table 4]. Analgesics were used 8 hourly in 56% cases and 12 hourly in rest in group A. On the other hand it was 40% and 56% respectively in group B patients [Table 5].

Table-4: Distribution of cases according to analgesic requirement.

Analgesia (days)	Group A		Group B	
	No.	%age	No.	%age
1	6	24	8	32
2	17	52	15	60
3	2	8	2	8
4	0	0	0	0
>4	0	0	0	0
Total	25	100	25	100

p>0.05 (NS)

Table-5.

Frequency of Analgesic Dosage In Hour	Group A		Group B	
	No.	%age	No.	%age
6 hourly	0	0	1	4
8 hourly	14	56	10	40
12 hourly	11	44	14	56
24 hourly	-	-	-	-
Total	25	100	25	100

X² = 2.027; df =2; p = 0.363 (NS)

Incidence of post operative nausea and vomiting remained high and had negative effect on patient’s satisfaction about overall surgical experience. It is most common in general anaesthesia, less frequent with regional and least with local anaesthesia. In our study, it was seen in 24% cases of group A and 36% cases of group B [Table 6]. Oral feeding was started as early as by 6 hours in group A patients but it was withheld for 12-18 hours in group B patients. Catheterisation was required in 3 patients of group A and 7 patients in group B [Table 7].

Post operative packing was required in all the cases in both the groups which was removed after 24 hours. There was no case with episode of post operative bleeding in any of the group. Hospital stay was 2.3±0.46 days in group A and 3.4±0.53 days in group B.

Table-6: Complications like nausea and vomiting.

Nausea	Group A		Group B	
	No.	%age	No.	%age
Present	6	24	9	36
Absent	19	76	16	64
Total	25	100	25	100

X² = 0.857; df =1; p = 0.355 (NS)

Table-7: Comparison of oral feeding allowed and tolerated in both the groups.

Time oral feeding allowed and tolerated (hrs)	Group A		Group B	
	No.	%age	No.	%age
6 hours	6	24	0	0
8 hours	14	56	8	32
12 hours	5	20	17	68
Total	25	100	25	100

P<0.001 (HS)

Discussion

The anal surgery under local anaesthesia is firmly rooted in western surgical practice. American cancer society has even mentioned removal of T1M0N0 stage of cancer of anorectal region under local anaesthesia [6]. In our prospective randomised study of 50 cases, majority of patients were male in consistence with the review of Proctological disorders done by PJ Gupta in 2006 [7]. Another study by Shamim Qureshi et al (2009) also found male predominance in peri-anal disorders (Males- 74.88% Females- 25.12%) with haemorrhoids being the most common disorder [8]. Similarly, Lorenzo-Rivero S noted similar sex incidence amongst haemorrhoids patients [9].

Although Chong PS found haemorrhoids more commonly in the age group of 45-65 years but American Society of Colon and Rectal Surgeons found that 50% of patients developed haemorrhoids after the age of 30 years in consistent with our study [10]. 25 out of total of 50 patients were in the age group of 31-50 years in our study. Lower limit of age 20 years constituted 0% in group A and 12% in group B consistent with the study by Orid Kaider [Table 1] [11]. In our study incidence of haemorrhoidal disease decreased with increasing age and had only 2 cases with age >70 years. Haemorrhoids, anal fissures and fistulas emerged as three most common disorders (88% in group A and 96% in group B) in our study.

Haemorrhoids alone accounted for >50% of cases in both groups consistent with the study done by Hussain JN who found haemorrhoids to be the most common cause of bleeding per rectum [Table 2] [12].

Most series reported visual analogue scale score <4 in anal surgery performed under local anaesthesia and were observed in many studies [13,14,15]. However in our study mean VAS was 4. Only 10 patients recorded 5-6 [Table 3].

Incidence of post operative nausea and vomiting remained high and had negative effect on patient's satisfaction about overall surgical experience [16].

So, surgery under local anaesthesia is cost effective, simpler, allows early tolerance to oral feeding, early ambulation in comparison to anal surgery done under spinal anaesthesia.

Summary and Conclusions

The above study reveals that results are more in favour of anal surgery done under local anaesthesia than under spinal anaesthesia because of simplicity in administration of anaesthetic agent, less need of analgesia, lesser hospital stay, lesser incidence of nausea and vomiting, low VAS and no need for catheterisation.

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