Scholars Journal of Applied Medical Sciences (SJAMS) **ISSN 2320-6691 (Online)**
Sch. J. App. Med. Sci., 2015; 3(2G):1000-1004 **ISSN 2347-954X (Print)**

(An International Publisher for Academic and Scientific Resources)
www.saspublishers.com DOI: 10.36347/sjams.2015.v03i02.094

Research Article

Comparative Study of Local v/s General & Regional Anaesthesia in Perianal Day Care Surgery

Gandhi Ajay*, Legha Mahaveer, Gothwal Sitaram, Bothra A.C. Kumar Ashok, Jalthania Mahendra
Department of General Surgery, S. P. Medical College, Bikaner, Rajasthan, India

***Corresponding author**
Dr. Ajay Gandhi
Email: ajay.gandhi70@rediffmail.com

Abstract: In the U.K. Day surgery is defined as 'the admission of selected patients to hospital for a planned surgical procedure, returning home on the same day. In determining whether a procedure is suitable to be performed on a day care basis, certain criteria must be considered. The duration of the procedure should be less than 2 hrs, postoperative pain must be easily controlled and any serious or life threatening complications would have been happened regardless of keeping patient overnight. The growth of Day Care Surgery over the past decade is the result of of developments in anaesthesia and analgesia, as well as the surgery itself. Perianal disorders include Fistula in ano, Fissures, Hemorrhoids, Perianal abscess, Pilonidal sinus. Operative procedures for these diseases can be done under local anaesthesia. This procedure is simple and safe as comparison to general anaesthesia. Decrease post operative pain means early ambulation, with further decrease in post operative complications. There is growing evidence to show that the use of local anaesthesia in anorectal surgery enables these surgeries to be done as day care. The study consists of 25 cases of perianal diseases each in local and general/regional anaesthesia group. Perianal surgery performed under local anaesthesia is safe, acceptable and cost effective method. This is also useful in patients who are unfit for general anaesthesia. Almost all patients operated under local anaesthesia were fit to be discharged by the end of 24 hours in post operative period. Early return to work also helps them financially. Hence perianal surgeries under local anaesthesia are recommended as routine method of day care surgery.
Keywords: Day surgery, Perianal disorders, Local anaesthesia, Perianal block.

INTRODUCTION

In the U. K. Day surgery is defined as 'the admission of selected patients to hospital for a planned surgical procedure, returning home on the same day [1].

In determining whether a procedure is suitable to be performed on a day care basis, certain criteria must be considered. The duration of the procedure should be less than 2 hrs, postoperative pain must be easily controlled and any serious or life threatening complications would have been happened regardless of keeping patient overnight [2].

The growth of Day Care Surgery over the past decade is the result of of developments in anaesthesia and analgesia, as well as the surgery itself.

Day Care Surgery is an increasingly important part of elective surgery because of high cost of keeping patients in, inpatient's beds. The reduction in availability of these beds and long surgical waiting lists in publicly funded healthcare system.

Day Care Surgery is not a new concept. In 1909 Nicoll [3], a Scottish surgeon reported operating on nearly 9000 children as day care cases, for operations such as Tallipes, Correction of Hare lip, Hernia repair.His motivation was to save money and use resourses for better reasons which are equally valid today.

In 1951 Farquaharson [4], an Edinburgh surgeon carried out adult hernia repairs under local anaesthesia in order to reduce long waiting lists in the newly introduced National Health Service.

Reduced costs, reduced waiting lists for elective surgery, inpatients beds free for major and emergency surgery, fewer cancellation on day of surgery, low incidences of serious post operative morbidity, decreased thromboembolism and hospital acquired infections, mimimal disruption of patient life, early return to normal work and activities these are the few benefits of Day Care Surgery. But there are few potential problems also; these are: initial costs of setting up Day Surgery Units, Good organization and management needed, resistance from senior medical

staff, poor patient and procedure selection, morbidity from anaesthesia and surgery, provision of adequate information to the patients and increased community workload.

As rule every patient requiring surgery must be fit for general anaesthesia as it may be detrimental to patient's life if used without screening of patients .This rule holds true for general anaesthesia but local anaesthetic agents do not follow such stringent rules and can be safely administered to any patient if not contraindicated eg. in some patients of Cardiac Arrhythmias and hypersensitivity to a particular drug.

Ano-rectal surgeries performed under conventional anesthesia (GA/SA) are fraught with numerous side effects, such as, drowsiness,headache, nausea, vomiting, sore throat, backache, postoperative pain and urinary retention. In addition to the need for anesthetists' expertise, GA/SA impose restrictions on pre/post procedural oral intake & movement, necessitate close inpatient post operative monitoring and contribute towards additional operation room time consumption, making them rather patient and surgeon unfriendly [5-7].

The aim of PAB, irrespective of technique, is to block the terminal nerve fibres to the anus and the sphincter to facilitate smooth and painless surgery. Techniques of administering PAB vary from direct infiltration into the sphincter complex to infiltration peri-sphincterically in the ischiorectal fossae. The later has been performed primarily in three different ways- infiltration posteriorly alone; both anteriorly & posteriorly; and all around the sphincter complex. These techniques have been combined variously with supplemental infiltration into the intersphincteric space, sub- mucosal space and perianal skin. Sedation, although not mandatory, has been found to be helpful in allaying anxiety and pain associated with the procedure [8-16].

Perianal disorders includes fistula in ano, fissures, hemorrhoids, perianal abscess, pilonidal sinus. Operative procedures for these diseases can be done under local anaesthesia. This procedure is simple and safe as comparison to general anaesthesia.

Decrease post operative pain means early ambulation, with further decrease in post operative complications. There is growing evidence to show that the use of local anaesthesia in anorectal surgery enables these surgeries to be done as day care [17].

Aims and Objectives

A comparative study on treatment iof perianal diseases under local anaesthesia v/s general & regional anaesthesia specially in relation to:

- Cost of treatment
- Operating time
- Total hospital stay
- Postoperative complications

MATERIAL AND METHODS

The study has been conducted in Department of general surgery at S. P. Medical College and Associated group of hospitals from June 2006 to March 2009.

The study consists of 25 cases of perianal diseases each in local and general/regional anaesthesia group.

Exclusion criteria

- Severe mental retardation
- Highly infectious disease
- Shock & trauma patient
- Patients requiring extensive monitoring
- Premature < 6 months of age
- BMI> 34
- Lack of responsible adult relative and proper toilet, telephone and transport facility.

Perianal block was used for all patients irrespective of their randomization. This was performed with 20 ml combination of 2% lignocaine & 0.5% sensrocaine injected at four sites (midline anterior & posterior;rt & lt lateral), fanning the needle in three directions at each of the four sites; care being taken to inject outside the external sphincter, to avoid pain. Once the external sphincter relaxed, a further 10 ml of the same anaesthetic was injected submucosally raising a bleb in each of the sites corresponding to the sites of perianal block. These blebs were massaged inferiorly.

Routine history was recorded in all cases which includes complaints with duration, under the following heads anorectal pain, severity, relationship to defaecation, blood in stool (streak or spurt), sentinel pile, history of constipation with duration, history of child birth, past history, local examination , per rectal examination, proctoscopy (possible or not)additional in the form of pruritus, proctitis, internal hemorrhoids.

Post operative complications like pain, urinary retention, partial incontinence of flatus & faeces, anal stenosis, recurrent mucus discharge were also taken into consideration.

Patients were followed up regularly at 2 weeks interval by telephone, letters or personally for 8 weeks.

RESULTS

The patients were allocated in 2 groups Group 1 (Local anaesthesia) and Group 2 (General/regional anaesthesia).

According to age most of the patients were in the age group 21-30 and 31-40 years in the both groups,

there were 28% and 24% cases in group 1 and 32% & 28 % cases in group 2.

Most of the cases were males in both groups (76% & 68 % in group 1 and 2 respectively).

In clinical conditions Fistula in ano (9 & 7), Hemorrhoids (6 & 8), Perianal abscess (4 &5), Pilonidal sinus (3 & 2), Fissure in ano (3 & 3) no. of cases in group 1 and 2 respectively.

Total operative time was 21-30 minutes in 92% cases in group 1 while it was 51-60 in 44 % cases and > 60 minutes in 48% of cases (Table 1).

Nausea and vomiting, sore throat and retention of urine were most common in group 2 (28%, 12% & 12% respectively) while retention of urine and local infection were common in group1 (4% each) (Table 2).

Post operative stay was less in group 1. There were 16 (64%) cases who had <12 hrs stay while 9(36%)cases who had 12-24 hrs stay; no case stayed >24 hrs., while in group 2, 11 (44 %) & 12 (48 %) cases were in hospital stay 12-24 and 24-48 hrs respectively. 2 patients (8%) were stayed >48 hrs.

In group 1 all cases expend <400 rupees while in group 2 not a single case who expend <400 rupees, 18 cases expend 1000 rupees and 7 cases expend 1500-2000 rupees.

Pain score 0-2 and 3-4 was most common in both groups on day 1.but difference in pain score at 2 weeks was stastitically significant (p=0.001). It was 3-4 in 56% cases in group 1 while in group 2 64% cases were in pain score range 5-6 (Table 3).

Table 1: Total operative time

Time in minutes	Group 1		Group 2	
	No.	%	No.	%
21-30	23	92	0	-
31-40	2	8	0	-
41-50	0	-	2	8
51-60	0	-	11	44
>60	0	-	12	48

Table 2: Post Operative complications

Complication	Group 1		Group 2	
	No	%	No	%
Retention of urine	1	4	3	12
Hematoma	0	-	1	4
Local infection	1	4	2	8
Nausea/Vomiting	0	-	7	28
Sore throat	0	-	3	12

Table 3: Pain score

Pain score	Group 1		Group 2	
	No	%	No	%
0-2	5	20	2	8
3-4	14	56	3	12
5-6	5	20	16	64
7-8	1	4	4	16
9-10	0	-	0	-

DISCUSSION

Our study entitled "A prospective study of perianal surgery under local anaesthesia as compared to general or regional anaesthesia in day care surgery". This is a prospective randomized study which was carried out on 50 patients (25 patients in local anaesthesia and 25 patients in general or regional anaesthesia) with special emphasis on type of anaesthesia, pain score, cost of treatment, operative time , early ambulation and postoperative complications.

Al Raymoony [18] done a randomized clinical trial of 62 patients requiring lateral anal sphincterotomy was carried out at Princess Haya Al Hussain Hospital in Jordan. They concluded that there were no difference in 2 groups in terms of operative time, post operative pain , nausea and vomiting, pain free interval after operation and topical and local anaesthetic agent can be used effectively for lateral anal sphincterotomy and provides alternate to general anaesthesia In our study Total operative time was 21-30 minutes in 92 % cases in group 1 while it was 51-60 in 44 % cases and > 60 minutes in 48 % of cases. Nausea and vomiting, sore

throat and retention of urine were most common in group 2 (28%, 12% & 12% respectively) while retention of urine and local infection were common in group1 (4%each).

Esser S *et al*. [19] done a study including 70 patients with grade 3 or 4 hemorrhoids underwent the procedure for prolapsing hemorrhoids under perianal infiltration of 0.5% lidocaine with 1: 2,00,000 epinephrine and supplemental conscious sedation. 5 patients complained of mild transient pressure, 3 complaints of faecal urgency and seepage before their first office visit. All subjects were back to work and social activity within 3-4 days. The conclusion of this study was that local anaesthesia with conscious sedation for the procedure for prolapsing hemorrhoids yield result equivalent to those with general or regional anaesthesia without the attendant risk and additional cost. In Our study Post operative stay was less in group 1. There were 16 (64%) cases who had <12 hrs stay while 9(36%) cases who had 12-24 hrs stay; no case stayed >24 hrs. while in group 2 11 (44 %)&12(48 %)cases were in hospital stay 12-24 and 24-48 hrs respectively. 2 patients(8%) were stayed >48 hrs.

In group 1 all cases expend <400 rupees while in group 2 not a single case who expend <400 rupees, 18 cases expend 1000 rupees and 7 cases expend 1500-2000 rupees.

Pain score 0-2 and 3-4 was most common in both groups on day 1.but difference in pain score at 2 weeks was stastitically significant (p=0.001). It was 3-4 in 56% cases in group 1 while in group 2 64% cases were in pain score range 5-6.

PAB in young adults is more challenging compared to the elderly, an experience that is shared by others. Denser tissues and lower pain threshold in young adults may be responsible for it.

About 2 min are needed for administering PAB and another 3 min for achieving the desired anesthesia. We found the rapid onset and recovery translate into quick turnaround time, a felt necessity in overloaded operation rooms of the developing world.

Both jack knife and lithotomy position have been recommended for ano-rectal surgeries. We preferred the later so that conversion to GA, in case of block failure, could be achieved without alteration of position. The complete gamut of anal surgeries could be performed with comfort under PAB. Studies demonstrate its efficacy even in stapled hemorrhoidectomies.

Distinctive advantage of PAB is post operative pain relief which, in our patients, lasted 5 hrs, concurring with experience of others. However, pain relief lasting up to 24 hours has been reported. Subsequent pain perception (VRS between 10–40) is similar to those who undergo surgery conventionally, which can well be controlled using NSAIDS in majority, as seen in our study (83%). The pain regresses gradually over a week, being maximal between 1–3 days, an observation that is shared by others. Pain score 0-2 and 3-4 was most common in both groups on day 1. But difference in pain score at 2 weeks was stastitically significant(p=0.001). It was 3-4 in 56% cases in group 1 while in group 2, 64% cases were in pain score range 5-6.

One of the distressing complications of bottom surgeries, especially in elderly, is urinary retention which occurs in up to 17% of patients. Perineal pain, reflex urethral sphincter spasm, prolonged motor/autonomic blockade, over hydration by intravenous fluids and restriction of movement are some of the important causes of urinary retention. PAB proves advantageous by reducing incidence of urinary retention by alleviating perineal pain and allowing free ambulation. Despite 24% of our patients being above 50 yrs of age, only 1(4%) suffered from urinary retention. Other studies report incidences up to 7% [20].

Most anal surgeries that were being done under general or regional anaesthesia are now being done under local anaesthesia. The technique of local anaesthesia has a short learning curve, which can be easily mastered. Decreased post operative pain means early ambulation, reduced post operative complications e.g. urinary retention and early discharge from hospital and return to work early. There is growing evidence to show that the use of local anaesthesia in anorectal surgery enables these surgeries to be done as day care.

CONCLUSION

Perianal surgery performed under local anaesthesia is safe, acceptable and cost effective method. This is also useful in patients who are unfit for general anaesthesia. A lmost all patients operated under local anaesthesia were fit to be discharged by the end of 24 hours in post operative period. Early return to work also helps them financially. Hence perianal surgeries under local anaesthesia are recommended as routine method of day care surgery.

REFERENCES

1. Day Surgery: Treat day surgery as the norm. Available from http://www.institute.nhs.uk/quality_and_service_improvement_tools/quality_and_service_improvement_tools/day_surgery_-_treat_day_surgery_as_the_norm.html
2. Paul Aylin, Susan Williams, Brian Jarman, Alex Bottle; Trends in day surgery rates. BMJ, 2005; 331: 803.
3. Russell RCG, Bulstrode CJK, Williams NS, Williams N, Bulstrode C, O'Connell PR; Bailey

and Love's Short Practise of Surgery. 23rd edition, CRC Press; 2000: 1284.
4. Russell RCG, Bulstrode CJK, Williams NS, Williams N, Bulstrode C, O'Connell PR; Bailey and Love's Short Practise of Surgery. 23rd edition, CRC Press; 2000: 1285.
5. Li S, Coloma M, White PF, Watcha MF, Chiu JW, Li H *et al*.; Comparison of the costs and recovery profiles of three anesthetic techniques for ambulatory anorectal surgery. Anesthesiology, 2000; 93(%): 1225–1230.
6. Aphinives P; Perianal block for ambulatory hemorrhoidectomy, an easy technique for general surgeon. J Med Assoc Thai, 2009; 92(2): 195–197.
7. Kushwaha R, Hutchings W, Davies C, Rao NG; Randomized clinical trial comparing day-care open haemorrhoidectomy under local versus general anaesthesia. Br J Surg., 2008; 95(5): 555–563
8. Nystrom PO, Derwinger K, Gerjy R; Local perianal block for anal surgery. Tech Coloproctol., 2004; 8(1): 23–26.
9. Nivatvongs S, Sobrade CW; Technique of local anesthesia for anorectal surgery. Dis Colon Rectum, 1997; 40(9): 1128–1129.
10. Foo E, Sim R, Lim HY, Chan STF, Ng BK; Ambulatory anorectal surgerydis it feasible locally? Ann Acad Med Singapore, 1998; 27: 512–514.
11. Roche B, Marti MC; Outpatient proctological surgery: an analysis of 3725 cases. Tech Coloproctol., 2000; 4(1): 35–38.
12. Gerjy R, Derwinger K, Nystrom PO; Perianal local block for stapled anopexy. Dis Colon Rectum, 2006; 49(12): 1914–1921.
13. Gerjy R, Larson AL, Sjodahl R, Nystrom PO; Randomized clinical trial of stapled haemorrhoidopexy performed under local perianal block versus general anaesthesia. Br J Surg., 2008; 95(11): 1344–1351.
14. Place R, Hyman N, Simmang C, Cataldo P, Church J, Cohen J *et al*.; Practise parameters for ambulatory anorectal surgery. Dis Colon Rectum, 2003; 46(5): 573-576.
15. Luck AJ, Hewett PJ; Ischiorectal fossa block decreases posthemorrhoidectomy pain: randomized, prospective, double-blind clinical trial. Dis Colon Rectum, 2000; 43(2): 142–145.
16. Vinson-Bonnet B, Coltat JC, Fingerhut A, Bonnet F; Local infiltration with ropivacaine improves immediate postoperative pain control after hemorrhoidal surgery. Dis Colon Rectum, 2002; 45(1): 104–108.
17. Sheikh P; Anorectal Surgery - Day Care is the New Mantra. Day Care Surgery – Revised. Available from http://www.bhj.org.in/journal/2006_4802_april/html/day_care_236-237.html
18. Al Raymoony AE; Surgical treatment of anal fissures under local anesthesia. Saudi Med J., 2001; 22(2): 114-116.
19. Esser S, Khubchandan I, Rakhamanine M; Stapled hemorrhoidectomy with local anaesthesia can be performed safely and cost effectively. Dis Colon Rectum, 2004; 47(7): 1164-1169.
20. Delikoukos S, Zacharoulis D, Hatzitheofilou C; Local posterior perianal block for proctologic surgery. Int Surg., 2006; 91(6): 348–351.