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Original Research Article.

Comparison of Recovery Profiles of Different Anesthetic Techniques for Ambulatory Anorectal Surgery: An Observational Study

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ABSTRACT

Background: Ambulatory surgery is appropriate for most anorectal pathology. Anorectal procedures are often performed in an outpatient setting using a variety of anesthetic techniques. Hence; under the light of above mentioned data, the present study was undertaken for comparing the recovery profiles of different anesthetic techniques for ambulatory anorectal surgery.

Materials and Methods: A total of 135 patients were enrolled. All the patients were broadly divided into three study groups- Spinal anesthesia group of 45 patients, Local anesthesia group of 45 patients and General anesthesia group of 45 patients. Blood samples were obtained preoperatively for assessing the complete hematological and biochemical profile. According to their respective groups, all the surgeries were performed. Recovery profile was compared.

Results: Mean duration of anesthesia was significantly lower in the local anesthesia group in comparison to the general anesthesia group and the spinal anesthesia group. No significant difference was observed while comparing the mean duration of surgery among the three study groups. However; mean duration of hospital stay was significantly lower in the local anesthesia group in comparison to the general anesthesia group and the spinal anesthesia group.

Conclusion: For carrying out ambulatory anorectal surgeries, local anesthetic technique is one of the most efficient techniques as it offers additional advantage of significantly improved recovery profile in comparison to other anesthetic techniques.

Keywords: Ambulatory, Profiles, Recovery.

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INTRODUCTION

Ambulatory surgery is appropriate for most anorectal pathology. Ambulatory anorectal surgery can be performed at reduced cost compared with inpatient procedures with excellent safety, improved efficiency, and high levels of patient satisfaction. Several perioperative strategies are employed to control pain and avoid urinary retention, including the use of a multimodal pain regimen and restriction of intravenous fluids. Anorectal pathology is prevalent throughout the world, with most anorectal complaints being transient and without the need for formal medical evaluation.[1-3] For those that do require surgical intervention for their anorectal pathology, the surgery can usually be done safely in the outpatient setting with minimal morbidity. However, no intervention is without risk, and complications frequently arise after anorectal surgery, with rates upward of 50% in some studies. Anorectal procedures are often performed in an outpatient setting using a variety of anesthetic techniques. One technique that has not been well studied is surgeon-administered conscious sedation along with local anesthetic.[4-6] Hence; under the light of above mentioned data, the present study was undertaken for comparing the recovery profiles of different anesthetic techniques for ambulatory anorectal surgery.

MATERIALS AND METHODS

The present study was commenced in the department of Anesthesia with the aim of comparing the recovery profiles of different anesthetic techniques for ambulatory anorectal surgery.

Sample Size: 145 patients

Study Population: Patients scheduled to undergo anorectal surgery

Ethical Clearance: Obtained from institutional ethical committee

Study Groups

- Spinal anesthesia group of 45 patients,
- Local anesthesia group of 45 patients and
- General anesthesia group of 45 patients

Methodology: Preoperative preparation was done in all the patients before the starting of the surgery. Blood samples were obtained preoperatively for assessing the complete hematological and biochemical profile. According to their respective groups, all

the surgeries were performed. A master chart was prepared, where recovery profile of all the subjects was recorded and compared.

Statistical Analysis: All the results were analyzed by SPSS software. Chi- square test was used for assessment of level of significance. P- value of less than 0.05 was taken as significant.

RESULTS

In the present research, 135 patients scheduled to undergo ambulatory anorectal surgery were enrolled. Random division of all the patients was done broadly into three study groups depending upon the type of anesthesia technique used.

Mean age of the patients of the spinal anesthesia group, local anesthesia group and general anesthesia group was 42.5 years, 40.8 years and 41.8 years. There were 35 males, 36 males and 32 males in the spinal anesthesia group, local anesthesia group and general anesthesia group respectively. Mean BMI of the patients of the spinal anesthesia group, local anesthesia group and general anesthesia group was 26.8, 27.5 and 26.1 Kg/m^2 respectively.

In the present study, mean duration of anesthesia was significantly lower in the local anesthesia group in comparison to the general anesthesia group and the spinal anesthesia group. No significant difference was observed while comparing the mean duration of surgery among the three study groups. However; mean duration of hospital stay was significantly lower in the local anesthesia group in comparison to the general anesthesia group and the spinal anesthesia group.

Table 1: Demographic data

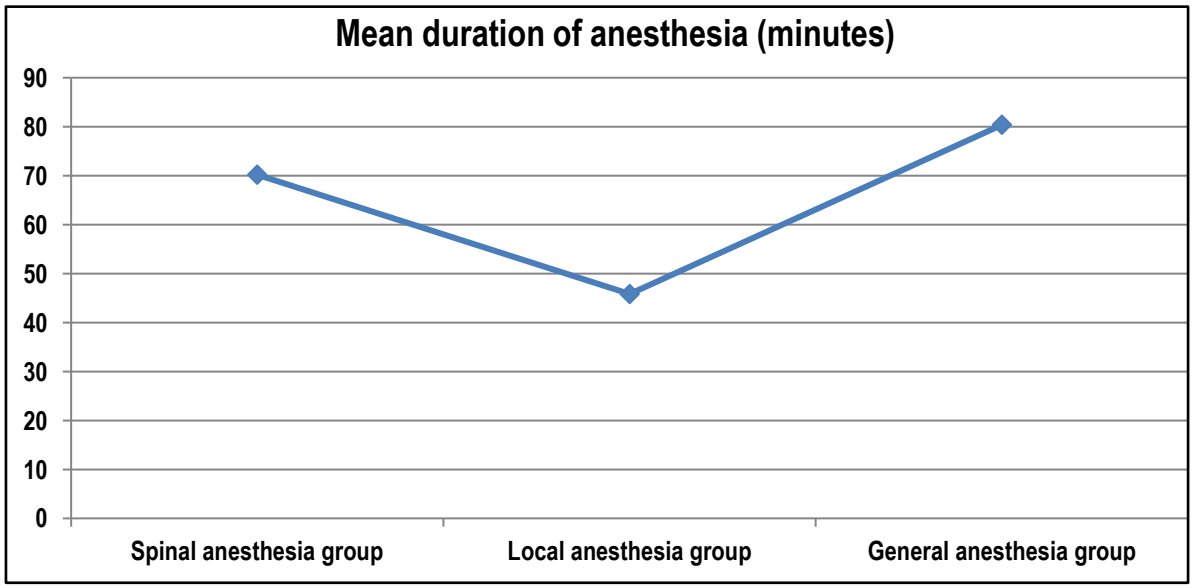
Parameter	Spinal anesthesia group	Local anesthesia group	General anesthesia group
Total number	45	45	45
Mean age (years)	42.5	40.8	41.8
Mean weight (Kg)	80.3	78.7	79.8
Males	35	36	32
Females	10	9	13
Mean BMI (Kg/m^2)	26.8	27.5	26.1
ASA Grade I	37	35	31
ASA Grade II	8	10	14

Table 2: Comparison of recovery profile

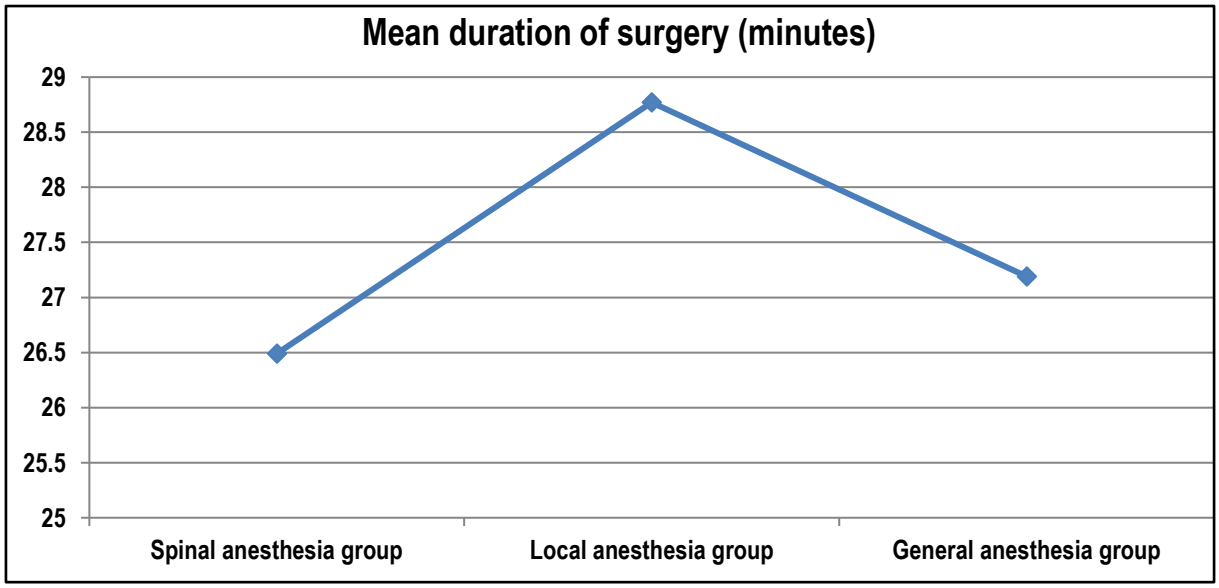
Variable	Group Vs. Group		p- value
Mean duration of anesthesia	**Spinal anesthesia group**	**Local anesthesia group**	0.00 (S)
		General anesthesia group	0.68
	Local anesthesia group	**General anesthesia group**	0.04 (S)
Mean duration of surgery	**Spinal anesthesia group**	**Local anesthesia group**	0.84
		General anesthesia group	0.49
	Local anesthesia group	**General anesthesia group**	0.77
Mean duration of hospital stay	**Spinal anesthesia group**	**Local anesthesia group**	0.03 (S)
		General anesthesia group	0.18
	Local anesthesia group	**General anesthesia group**	0.02 (S)

S: Significant

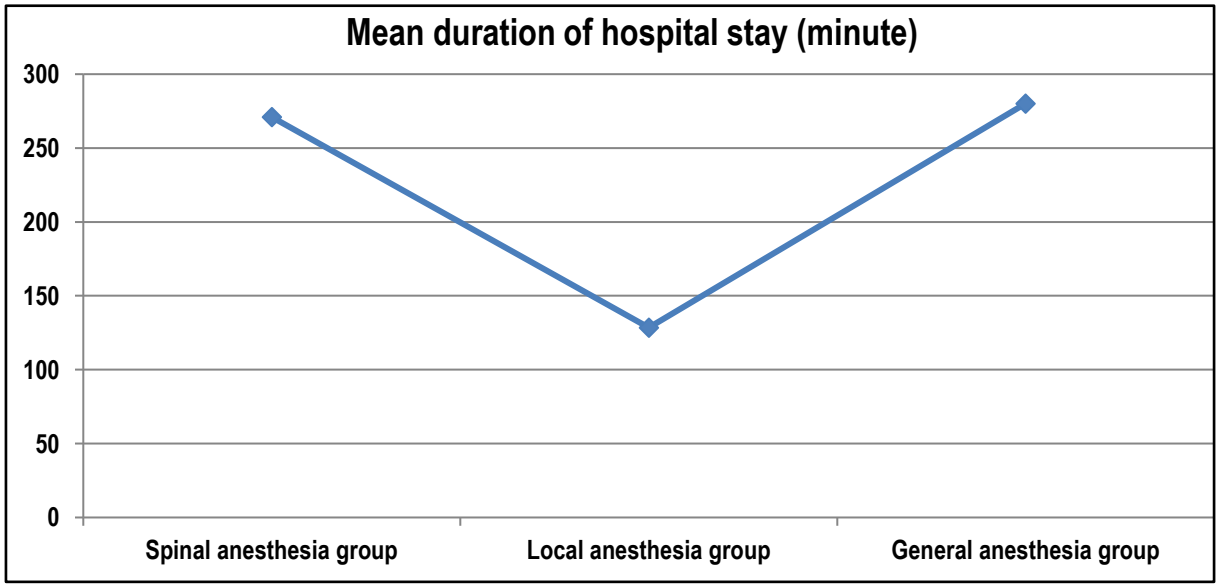
Graph 1: Comparison of mean duration of anesthesia



Graph 2: Comparison of mean duration of surgery



Graph 3: Comparison of mean duration of hospital stay



DISCUSSION

Prior to the 1980s, most anorectal surgery was performed in a hospital environment, and involved a stay in the hospital that could last for several nights as the patient recovered. Over time, it became evident that most anorectal procedures did not require such an elaborate recovery, and could instead be performed in an ambulatory fashion. Currently, it is estimated that as many as 90% of anorectal procedures may be candidates for ambulatory surgery. Anorectal pathology amenable to ambulatory surgery includes anal fissures, warts, fistulas, hemorrhoids, pilonidal cysts, abscesses, and small neoplasms, among others. Ambulatory anorectal surgery is an appealing approach for patients and physicians due to its increased efficiency and decreased surgical costs.[7-10] Hence; under the light of above mentioned data, the present study was undertaken for comparing the recovery profiles of different anesthetic techniques for ambulatory anorectal surgery.

In the present research, mean age of the patients of the spinal anesthesia group, local anesthesia group and general anesthesia group was 42.5 years, 40.8 years and 41.8 years. There were 35 males, 36 males and 32 males in the spinal anesthesia group, local anesthesia group and general anesthesia group respectively. Mean BMI of the patients of the spinal anesthesia group, local anesthesia group and general anesthesia group was 26.8, 27.5 and 26.1 Kg/m^2 respectively. Safety and early postoperative results of ambulatory anorectal surgery using perianal anesthetics infiltration was assessed by Lohsiriwat V et al. This retrospective study included 222 elective ambulatory anorectal surgical patients under perianal anesthetics infiltration. Perioperative pain, postoperative complications, and surgical outcomes were analyzed. The patients were 122 males and 100 females aged 16-84 (mean 43) years undergoing 150 closed hemorrhoidectomies, 55 lateral internal anal sphincterotomies, 28 fistulotomies, and 3 cauterizations for condyloma acuminata. Perianal block was effective, neither intravenous analgesics nor conversion to general anesthesia was needed. The average pain score was 3.4 +/- 2.3 on day 1 and 1.2 +/- 1.5 on day 7 postoperatively. Urinary retention was found in one case (0.5%). None of the patients

needed hospital admission, except one emergency hospitalization (0.5%) due to bleeding. Perianal anesthetics infiltration allows the surgeons to perform anorectal surgery in a day-case regimen safely and effectively with a low incidence of urinary retention.[11]

In the present study, mean duration of anesthesia was significantly lower in the local anesthesia group in comparison to the general anesthesia group and the spinal anesthesia group. No significant difference was observed while comparing the mean duration of surgery among the three study groups. However; mean duration of hospital stay was significantly lower in the local anesthesia group in comparison to the general anesthesia group and the spinal anesthesia group. In a previous study conducted by Sobrado CW et al, authors assessed the profile of patients undergoing ambulatory anorectal surgery under local anesthesia. Three hundred and twenty-eight patients with anorectal diseases were submitted ambulatory surgery, under local anesthesia, in a three-year period. Three hundred and fifty one operations were performed in outpatient service. The most common complication was severe pain (16.1%). Five patients (1.5%) required hospitalization due postoperative complications. The surgery on an outpatient basis was a well-accepted procedure for two hundred eighty-eight patients (88%). The main benefit reported by patients was the possibility of recovery at home, which is more comfortable. The ambulatory anorectal surgery under local anesthesia is a safe and effective method, with the additional advantage of the costs saved and increase of available beds for more complex surgery.[12] In another study, Hina M et al evaluated the use of this technique with emphasis on safety, efficacy, and patient satisfaction. Chart review was performed on 133 consecutive patients who had anorectal procedures at an outpatient surgery center. From the results, they concluded that surgeon-administered conscious sedation with local anesthesia was well tolerated for outpatient anorectal surgeries.[13] Foo E et al examined the feasibility of performing these procedures in an outpatient setting. Patients (age range 16 to 65 years) with anorectal complaints requiring surgery were randomized into 2 groups of 40 patients each. The first group was managed in the conventional inpatient setting with regional anaesthesia. The second group was done on an ambulatory basis with local anal block. Pain and satisfaction scores for both groups were similar. From the results, they concluded that anorectal surgery could be performed in an outpatient setting locally with safety and efficacy.[14]

CONCLUSION

From the above results, it can be concluded that for carrying out ambulatory anorectal surgeries, local anesthetic technique is one of the most efficient techniques as it offers additional advantage of significantly improved recovery profile in comparison to other anesthetic techniques. However; further studies are recommended.

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