

Evaluation of Recovery Profiles of Different Anesthetic Techniques for Ambulatory Anorectal Surgery

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ABSTRACT

Background: Minor anorectal diseases are rather common finding. Ambulatory surgical procedures should be performed in a setting with adequate personnel and equipment to provide a safe procedure, anesthesia, and recovery. Hence; present study was planned to assess the recovery profiles of different anesthetic techniques for ambulatory anorectal surgery.

Materials & Methods: The present study included assessment of recovery profiles of different anesthetic techniques for ambulatory anorectal surgery. A total of 60 patients scheduled to undergo anorectal surgery were included in the present study. All the patients were broadly and randomly divided into two study groups based on the type of anesthetic technique used, as follows: Group A: Local anaesthesia, Group B: Spinal anaesthesia, Group C: General anaesthesia. All the surgeries were performed under anaesthesia based on their respective groups. Recovery profile in all the patients was recorded and compared.

Results: Significant results were obtained while comparing the recovery profile in between group A and group B and in between group A and group C.

Conclusion: Recovery profile of spinal and general anesthesia, for the patients undergoing ambulatory anorectal surgeries, was significantly higher in comparison to the patients undergoing surgeries under local anesthesia.

Key words: Ambulatory Anorectal, Anesthesia, Surgery.

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Article History:

Received: 14-12-2018, Revised: 10-01-2019, Accepted: 28-01-2019

Access this article online

Website: www.ijmrp.com	Quick Response code 
DOI: 10.21276/ijmrp.2019.5.1.051	

INTRODUCTION

In the present day world, according to the data of the published literature, minor anorectal diseases are rather common finding. Some 20–30 years ago anorectal surgery was regarded as extremely painful.^{1,2} The operation itself takes a rather short time and under adequate anesthesia usually goes uneventfully. Anorectal surgery requires deep anesthesia because the zone gets multiple nerve supply and is reflexogenic.^{3,4} Ambulatory surgical procedures should be performed in a setting with adequate personnel and equipment to provide a safe procedure, anesthesia, and recovery.^{5,6} This includes freestanding ambulatory surgery centers (ASCs) as well as hospital-based outpatient surgery departments which appear to perform equally well.⁷ Hence; present study was planned to assess the recovery profiles of different anesthetic techniques for ambulatory anorectal surgery.

MATERIALS & METHODS

The present study was conducted in the department of Anaesthesia of Pacific Medical College, Udaipur, Rajasthan, India,

and included assessment of recovery profiles of different anesthetic techniques for ambulatory anorectal surgery. Ethical approval was obtained from institutional ethical committee and written consent was obtained after explaining in detail the entire research protocol. A total of 60 patients scheduled to undergo anorectal surgery were included in the present study. All the patients were broadly and randomly divided into two study groups based on the type of anesthetic technique used, as follows:

Group A: Local anaesthesia,

Group B: Spinal anaesthesia,

Group C: General anaesthesia

Exclusion Criteria

- Patients with history of any other systemic illness,
- Patients with any known drug allergy,
- Patients with history of any metabolic disorder

Pre-medication of all the patients was done with 2 mg of midazolam intravenously. All the surgeries were performed under anaesthesia based on their respective groups. Recovery profile in all the patients was recorded and compared. All the results were

recorded in Microsoft excel sheet and were analysed 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 study, a total of 60 patients were analyzed and were broadly divided into three study groups. Mean age of the patients of group A, group B and group C was 42.5 years, 41.6 years and 43.5 years respectively. Mean weight of the patients of group A, group B and group C was 79.2 Kg, 78.5 Kg and 80.2 Kg respectively. There were 13 males in group A, while there were 12

males each in group B and group C respectively. Mean duration of anesthesia among the subjects of group A, group B and group C was 41.2 minutes, 75.1 minutes and 78.1 minutes respectively. Mean duration of surgery among the subjects of group A, group B and group C was 27 minutes, 27.5 minutes and 27 minutes respectively.

Mean duration of hospital stay among the subjects of group A, group B and group C was 121.5 minutes, 256.2 minutes and 251.3 minutes respectively. Significant results were obtained while comparing the recovery profile in between group A and group B and in between group A and group C.

Table 1: Demographic data

Parameter	Group A	Group B	Group C
Mean age (years)	42.5	41.6	43.5
Mean weight (Kg)	79.2	78.5	80.2
Males	13	12	12
Females	7	8	8

Table 2: Comparison of recovery profile

Parameter	Group A	Group B	Group C	p- value (Group A vs Group B)	p- value (Group A vs Group C)	p- value (Group B vs Group C)
Duration of anesthesia (minutes)	41.2	75.1	78.1	0.02*	0.01*	0.52
Duration of surgery (minutes)	27	27.5	27	0.98	1	0.98
Duration of hospital stay (minute)	121.5	256.2	251.3	0.00*	0.00*	0.22

DISCUSSION

The prevalence of minor anorectal diseases is 4-5% of adult Western population. Operations are performed on ambulatory or 24-hour stay basis. Requirements for ambulatory anesthesia are: rapid onset and recovery, ability to provide quick adjustments during maintenance, lack of intraoperative and postoperative side effects, and cost-effectiveness. Anorectal surgery requires deep levels of anesthesia. Postoperative period may be complicated by: 1) severe pain, 2) urinary retention due to common nerve supply, and 3) surgical bleeding. Complications may lead to hospital admission. In conclusion, novel general anesthetics are recommended for ambulatory anorectal surgery.⁸ In the present study, mean age of the patients of group A, group B and group C was 42.5 years, 41.6 years and 43.5 years respectively. Mean weight of the patients of group A, group B and group C was 79.2 Kg, 78.5 Kg and 80.2 Kg respectively. Li S et al compared three commonly used anesthetic techniques for anorectal procedures in the ambulatory setting. Ninety-three consenting adult outpatients undergoing anorectal surgery were randomly assigned to one of three anesthetic treatment groups: group 1 received local infiltration with a 30-ml mixture containing 15 ml lidocaine, 2%, and 15 ml bupivacaine, 0.5%, with epinephrine (1:200,000) in combination with intravenous sedation using a propofol infusion, 25-100 microg. kg⁻¹. min⁻¹; group 2 received a spinal subarachnoid block with a combination of 30 mg lidocaine and 20 microg fentanyl with midazolam, 1-2-mg intravenous bolus doses; and group 3 received general anesthesia with 2.5 mg/kg propofol administered intravenously and 0.5-2% sevoflurane in combination with 65% nitrous oxide. The use of local anesthesia

with sedation was the most cost-effective technique for anorectal surgery in the ambulatory setting.⁹

In the present study, there were 13 males in group A, while there were 12 males each in group B and group C respectively. Mean duration of anesthesia among the subjects of group A, group B and group C was 41.2 minutes, 75.1 minutes and 78.1 minutes respectively. Mean duration of surgery among the subjects of group A, group B and group C was 27 minutes, 27.5 minutes and 27 minutes respectively. Sungurtekin H et al evaluated two anesthetic techniques, namely, local anesthesia with sedation, and spinal anesthesia, with respect to recovery times, postoperative side effects, pain scores, patient satisfaction, and hospital costs for ambulatory pilonidal disease surgery. Patients were randomly allocated into two groups: Group 1 (n = 30) received spinal anesthesia with hyperbaric bupivacaine 1.5 mL 0.5%, and Group 2 (n = 30) received local infiltration with a 50-mL mixture containing 10 mL bupivacaine 0.5%, 10 mL prilocaine HCl 2%, and 30 mL isotonic solution with 1:200,000 epinephrine in combination with intravenous (i.v.) midazolam sedation. No difference was found between groups in the frequency of side effects. Urinary retention was diagnosed in two patients in the spinal anesthesia group. The use of local anesthesia-sedation for ambulatory anorectal surgery resulted in a shorter hospital time, lower hospital costs, and no side effects compared with spinal anesthesia.¹⁰

In the present study, mean duration of hospital stay among the subjects of group A, group B and group C was 121.5 minutes, 256.2 minutes and 251.3 minutes respectively. Significant results

were obtained while comparing the recovery profile in between group A and group B and in between group A and group C. Gupta A et al assessed and compared the efficacy of low-dose bupivacaine plus fentanyl for spinal anesthesia during ambulatory inguinal herniorrhaphy. Forty patients were randomly divided into two groups according to a double-blind protocol: Group L had spinal anesthesia with bupivacaine 6.0 mg and Group H with bupivacaine 7.5 mg; in both groups, fentanyl 25 micro g was added to the spinal anesthetic. The sensory block was measured by 'pin-prick' and the motor block was evaluated by a modified Bromage scale. No differences were seen in the spread, duration and regression of sensory block between the groups on the operated side. Spinal anesthesia with bupivacaine 7.5 mg and fentanyl offers an alternative to general or local anesthesia for ambulatory inguinal herniorrhaphy.¹¹

CONCLUSION

Under the light of above obtained results, it can be concluded that recovery profile of spinal and general anesthesia, for the patients undergoing ambulatory anorectal surgeries, was significantly higher in comparison to the patients undergoing surgeries under local anesthesia. However; further studies are recommended.

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Source of Support: Nil.

Conflict of Interest: None Declared.

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Cite this article as: Virendra Sharma. Evaluation of Recovery Profiles of Different Anesthetic Techniques for Ambulatory Anorectal Surgery. *Int J Med Res Prof*. 2019 Jan; 5(1):232-34. DOI:10.21276/ijmrp.2019.5.1.051