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Original Research Paper

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INCIDENCE OF BACKACHE AFTER SPINAL ANAESTHESIA COMPARING GENDER, AGE AND NUMBER OF ATTEMPTS.

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ABSTRACT

INTRODUCTION Back pain is often reported as a common complaint after surgery following spinal anaesthesia. Many studies showed that the incidence of back pain after spinal anaesthesia is high and its magnitude is considerable in developing countries. It is highly related to reduced quality of life, loss of work productivity, burden of health care costs, and satisfaction regarding health care service; therefore, measures should be taken to reduce or prevent post spinal back ache. The aim of this prospective observational study is to asses the incidence of backache after spinal anaesthesia comparing gender, age and number of attempts. **METHODS** An institutional based prospective observational study was conducted from March to May 2022 in Saveetha Medical College Hospital, Thandalam, Chennai. A total of 100 participants were enrolled in this study. A convenience sampling technique was used to get the study participants. **STATISTICAL ANALYSIS** Both univariable and multivariable logistic regression were used to identify factors associated with postspinal back pain. Variables with a p value less than <0.2 in the bivariable analysis were fitted into the multivariable analysis. In the multivariable analysis, a variable with a p value of <0.05 was considered statistically significant. **RESULTS** The incidence of post spinal back pain was positively correlating with increase in number of attempts and increase in number of bony contacts during the spinal anaesthesia procedure and was higher in females and younger age group. **DISCUSSION** The overall incidence of back pain is high. Number of attempts and number of bone contacts are significantly associated with the incidence of back pain following spinal anaesthesia. Post spinal back pain is of mild type and it manifests in first two to six hours after surgical procedure when the local anaesthetic effect wears off. Fear of back pain in post spinal anesthesia is the main reason for patient refusal and it accounts for a rate of 13.4%. **CONCLUSION** This study confirms that overall incidence of backpain is high when the number of attempts, bone contacts are high .Hence, health professionals should minimize the number of attempts and bone contacts during lumbar puncture to reduce the incidence of post spinal back pain. Finally, conducting a similar study to assess the long term occurrence of postspinal back pain is recommended.

KEYWORDS : Post Spinal Back pain, Bone Contacts

INTRODUCTION

Spinal anesthesia (SA) is the most commonly preferred and widely used anesthesia technique in surgeries like lower extremity surgery, anorectal, urologic, obstetric, and gynecologic interventions and lower abdominal procedures. Even though spinal anesthesia is the preferred technique, it has a lot of complications like postspinal back pain (PSBP) compared to general anesthesia (GA).Regardless of the anesthetic technique, postoperative low back pain is often reported as a common complaint after SA but the association between anesthetic technique and back pain is still unclear .Postspinal back pain (PSBP) is usually a mild type of pain and it manifests during the first two to six hours (hrs) after the surgical procedure, when the local anesthetics wear off in most people, and lasts only for a few days. Back pain is often reported as a common complaint after surgery following spinal anaesthesia. Many studies showed that the incidence of back pain after spinal anaesthesia is high and is associated with other factors like positioning of patient, duration of surgery, hence its magnitude is considerable in developing countries.It is highly related to reduced quality of life, loss of work, productivity, burden of health care costs, and satisfaction regarding health care service; therefore, measures should be taken to reduce or prevent post spinal back ache.

AIM

To asses the incidence of backache after spinal anaesthesia comparing gender, age and number of attempts.

MATERIALS AND METHODS

- Institutional Ethical Committee approval was obtained.
- Written Informed Consent from each patient was taken

INCLUSION CRITERIA

1) Age 18- 40yrs.
2) ASA physical status 1,2.
3) Patients scheduled for elective lower abdominal surgery, lower limb surgery , gynecological procedures in the sitting position under spinal anaesthesia .

EXCLUSION CRITERIA

- Age <18years and >40years.
- ASA physical status 3,4
- Congenital or traumatic abnormalities of lumbar spine.
- Impaired cognitive ability.
- Patients undergoing combined spinal and epidural anesthesia.
- Patients with previous history of low back pain.
- Patients undergoing Lower Segment Caessarean Section.

TYPE OF STUDY

Prospective, Comparative Observational Study

SAMPLE SIZE-100

PROCEEDURE

After ethical committee clearance and after finding the suitability according to selection criteria, patients were selected for the study and briefed about the nature of the

study, the interventions used and written informed consent were obtained. Further, descriptive data of the patients like name, age, sex, detailed history, were obtained and recorded on predesigned and pretested Proforma .In this study ASA grade 1 and 2 patients undergoing elective surgery under sub arachnoid block were included. After confirming the identity of the patient and procedure, preoperatively the patient's intravenous (IV) line was secured with either 18 G or 20 G cannula in vein on dorsum of patient's hand and IV ringer lactate solution was started. The patients were then shifted to the operation theatre and monitors like electrocardiograph (ECG), pulse oximeter and non-invasive blood pressure monitor were connected. In sitting position under all aseptic precautions sub arachnoid block was given using 25 G spinal needle. After the level of block achieved surgical procedure was started. The patients were followed up post spinal anesthesia day 1 and 2 and were questioned regarding the backpain . Patients were explained to rate their pain as no pain, mild, moderate or severe on a 10 point scale.

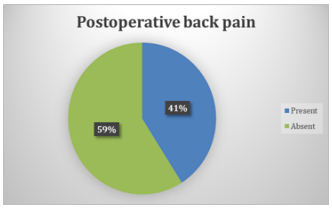
STATISTICAL ANALYSIS

Analysis was done using spss version 23. Descriptive and Analytical statistics were applied. Multivariable logistic regression were used to identify factors associated with postspinal back pain. P value of <0.05 was considered statistically significant.

TABLE 1 -DEMOGRAPHIC DATA

S.NO	Variables	Options	Frequency	Percentage
1.	Age	18-25	28	28%
		25-32	36	36%
		32-40	36	36%
2.	Sex	Female	75	75%
		Male	25	25%
3.	ASA	I	34	34%
		II	66	66%
4.	Number of attempts	1	49	49%
		2	24	24%
		>2	27	27%
5.	Number of bone contacts	No contact	57	57%
		1 contact	16	16%
		>2 contact	27	27%

PIE CHART DEPICTING INCIDENCE OF POST SPINAL BACK ACHE



RESULTS

TABLE 2- DEPICTING FREQUENCY AND PERCENTAGE

S.NO	Variables	Options	Frequency	Percentage
1.	Post operative back pain	Present	41	41%
		Absent	59	59%
2.	Onset of back pain	24-48 hrs	24	58%
		48-72 hrs	10	24%
		> 72 hrs	7	17%
3.	Severity of back ache	No pain	59	59%
		Moderate	35	85%
		Severe	6	15%

TABLE -4 DEPICTING ODDS RATIO

Variables	Pain		ODDS Ratio	
	Present	Absent	Crude ODDS	Adjusted ODDS
Number of attempts				
1	5	44	Reference	
2	15	9	5.3 (2.53, 11.5)	1.6 (1.02, 4.42)
>2	21	6	11.5 (4.64, 25.51)	3.9 (1.63, 15.23)
Number of bone contacts				
No contact	8	49	Reference	
1 contact	11	11	3.1 (2.68, 7.14)	1.30 (1.10, 8.45)
>2 contact	25	6	14.5 (06.52, 33.53)	3.6 (1.60, 11.43)

A total of 100 participants were involved in this study. The highest number of participants were in the age group 25-40 years. About two thirds of the study participants were female.

INCIDENCE OF POST SPINAL BACKACHE

The overall incidence in this study is 41%.

The highest incidence of back pain was found during 24-48 hours after spinal and was 58% and the lowest incidence was found after 72 hours and was 17%. Among the patients who had pain(41), 85% patients had moderate pain and 15% patients had severe pain. Both the number of attempts of lumbar puncture and the number of bone contacts during lumbar puncture had a direct relationship with the incidence of postspinal backache. An attempt of > 2 times was found to have higher incidence of back pain. In addition, those participants who had a higher number of bone contacts during spinal anesthesia had developed more back pain.

DISCUSSION

One of the common complications of spinal anesthesia in clinical practice is postoperative back pain. The reduction of this pain is mandatory to increase the quality of life, expand anesthesia outcomes, and improve patient satisfaction .In the current study, the overall incidence of postspinal back pain was 41%. This result was consistent with the study done in Germany (40%). However, the current finding is higher than the reports in the Republic of Korea (32%). This might be due to the fact that patients who had multiple lumbar puncture attempts (>3 times) were included in our study. During multiple lumbar puncture, there might be a cutting down of tissues and rupture of smaller blood vessels and nerves which causes back pain. In this study, the number of lumbar puncture attempts had a direct relationship with the development of PSBP. Thus, patients who had two attempts of a lumbar puncture during spinal anesthesia procedure were more vulnerable to develop PSBP than those who had one lumbar puncture attempt. This might be due to repeated tissue damage and even might have nerve damage or touch which end up with PSBP.

LIMITATION

In addition, patients were followed up for only three postoperative days but they may also develop postspinal back pain after they get discharged from the hospital. On the other hand, the visual analogue scale score was difficult to understand for most of the study subjects to evaluate the severity of pain since most of them were illiterate.

CONCLUSION

This study confirms that the overall incidence of back pain is high. The number of attempts, and the number of bone contacts are significantly associated with the incidence of back pain following spinal anesthesia. Hence, health professionals should minimize the number of attempts and bone contacts during lumbar puncture to reduce the prevalence of postspinal back pain. Finally, conducting a similar study to assess the longterm occurrence of postspinal back pain is recommended.

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