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Research Article

**THE OCCURRENCE OF BACK PAIN AS A CONSEQUENCE OF
SPINAL ANESTHESIA AND ITS ASSOCIATED FACTORS**¹Dr Sahrash Rafique, ²Dr Reesha Khalid Khan, ³Dr Ali Nawaz¹Allied Hospital Faisalabad, Pakistan**Abstract:**

Objective: After spinal anesthesia, Pain in back is very frequent issue. It may be the result of trauma due to needle or the surgical positioning or the concentrations of the dose. The purpose of this research work was to compare the occurrence of pain in back following spinal anesthesia with hyperbaric lidocaine five percent & bupivacaine 0.5 percent & insertion spaces of the needle.

Methodology: Ethical committee gave the approval of this study. The patients gave their willing to participate in the work. One hundred and seventy-six patients who were undergoing urologic surgeries under spinal anesthesia in Allied Hospital Faisalabad were the part of this research work. The duration of this research work was from May 2016 to May 2018. The separation of the patients carried out in to two equal groups. First group was Group lidocaine & second group was Group bupivacaine. The interview of all the patients carried out six, twenty-four & forty-eight hours after the operation to know about the back pain.

Results: This research work displayed no significance disparity in the occurrence of pain in back following SA considering age & rate of the puncture of needle during spinal anesthesia. The occurrence of back pain was very high in the group of lidocaine as compared to the group of bupivacaine. The occurrence of the pain in back was high in L 3-4 needle insertion inter space as compared to the L 4-5. The strength of pain in back was less & tolerable in 77% patients & back pain did not continue for more than forty-eight hours in all patients.

Conclusion: This research work concludes that the location of the needle insertion & kind of drug used for anesthesia have their impacts on the pain in back following spinal anesthesia.

Key Words: Puncture, Urologic Surgeries, lidocaine, hyperbaric, Anesthesia, Disparity.

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INTRODUCTION:

The complications due to neuraxial block are not most frequent. These problems can initiate the high amount of morbidity. The pain in back is very common complication after spinal anesthesia. Pain in back happens in twenty-two percent to forty percent of obstetrical patients [1, 2]. After surgery back pain after general anesthesia is concluded to happen in twelve percent patients [3]. Some research works does not find important enhancement in the occurrence of back pain when using a regional anesthetic as compared to those who are undergoing GA [4]. One important cause of back pain may be the injection of saline [5, 6]. Back pain is always available in twenty-five percent patients who face surgeries under any type of anesthesia [7]. The cause of the back pain following spinal anesthesia with HL has not discovered yet [3].

The positioning of the patient at the time of operation is also considered as a most vital factor for back pain but this problem can be tackled with the help of placement of proper pillows or cushions [1]. In one research work, it was shown that The spinal anesthesia was very important factor in the onset of the pain in back [8]. In a futuristic research work, this was concluded that pain in back was very commonly available in the patients who underwent spinal anesthesia with the help of HL (hyperbaric lidocaine) [9]. The main aim of this research work was to compare occurrence of pain in back following spinal anesthesia with hyperbaric lidocaine five percent & bupivacaine 0.5% and the insertion of the spinal needle.

METHODOLOGY:

This research work conducted on one hundred and seventy patients aged from seventeen to seventy-five years with American Society of Anesthesiologists physical condition classes 1, 2. The duration of this research work was from May 2016 to May 2018.

Ethical committee gave the permission for the conduction of the study. The selection of the patients carried out randomly & had faced different urologic operations following spinal anesthesia in Allied Hospital Faisalabad. No patient was suffering from back pain before surgery. The model spinal needles with size of twenty-five gauges were in use for all the patients. The division of the patients carried out in two equal groups.

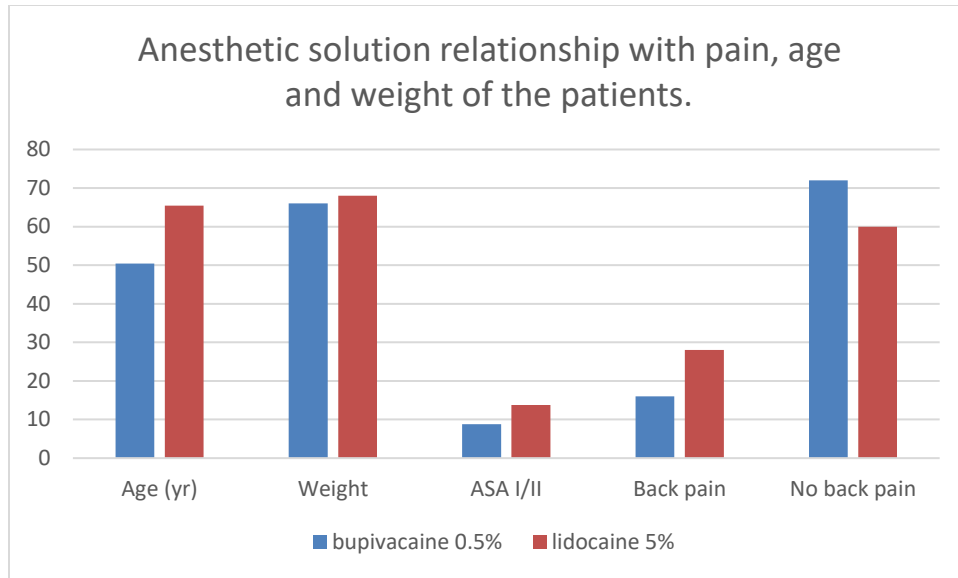
Patients in the group of lidocaine were anesthetized from HL one hundred milligram & patients in the group of bupivacaine, HB fifteen milligram. Only anesthetist performed spinal anesthesia on all patients. All the patients gave written willing to undergo SA. The insertion of the spinal needles conducted from L 3-4 or L 4-5 spaces. The examination of patients carried out after 6, 24 and 48 hours after the operation to know about the pain. The analysis of collected data carried out with the help of SPSS software. The results are available in averages, numbers and percentages. Chi square method utilized for the analysis of variables. Student T test was in use for the comparison of the numerical values in both groups.

RESULTS:

Table-1 is displaying the demographic information of the patients. There was no important disparity between the groups of lidocaine & bupivacaine. The occurrence of the back pain was much high in group of lidocaine as compared to the group of bupivacaine and there was a significant disparity between them as displayed in Table-1. About 88 patients faced spinal anesthesia from hyperbaric 0.5 percent bupivacaine, sixteen patients from them suffered pain in back while eighty-eight patients underwent SA from hyperbaric five percent lidocaine, twenty-eight patients from them suffered back pain. There was a significant statistical disparity among these two groups as shown in Table-1.

Table-I: -Association of different parameters with the local anesthetic solution

	bupivacaine 0.5%	lidocaine 5%	P Value
Age (yr.)	50.450 ± 15.40	65.450 ± 1.150	0.3560
Weight	66.0 ± 11.240	68.00 ± 14.70	0.4500
ASA I/II	8.80	13.75	0.2400
Back pain	16.0 (18.180%)	28.0 (31.820%)	0.0360
No back pain	72.0 (81.820%)	60.0 (68.180%)	



There is an important impact of spinal needle insertion point on the occurrence of pain in back following spinal anesthesia. The results of this research work stated that the occurrence of the back pain was very high in patients who had suffered with the insertion of the spinal needle in spinal space of L 3-4 spinal space as mentioned in Table-2. In one hundred and nine patients, spinal anesthesia carried

out with success by the penetration of the needle in first try and twenty-one patients suffered with back pain following spinal anesthesia. In thirty-five patients, the rate of needle was 2 times, eleven patients of whom faced the extreme pain in back. In thirty-two patients, the rate of spinal needle insertion was greater than 3 times, ten patients faced pain in their back as described in Table-3.

Table-II: The Insertion Points of Spinal Needle Association with the Incidences of Back Pain

Insertion Points	Pain	p value	No Pain	Total
L3-L4	26.0 (22.80%)	0.0010	88.0	114.0
L4- L5	8.0 (12.80%)		54.0	62.0
Paresthesia	10.0 (24.00%)	0.4600	32.0 (76.00%)	42.0
No paresthesia	25.0 (19.00%)		109.0 (81.00%)	
Supine position	27.0 (17.00%)	0.0150	131.0 (83.00%)	158.0
Lateral position	8.0 (40.00%)		12.0 (60.00%)	20.0
Mean operation time (min)	104.0		101.0	

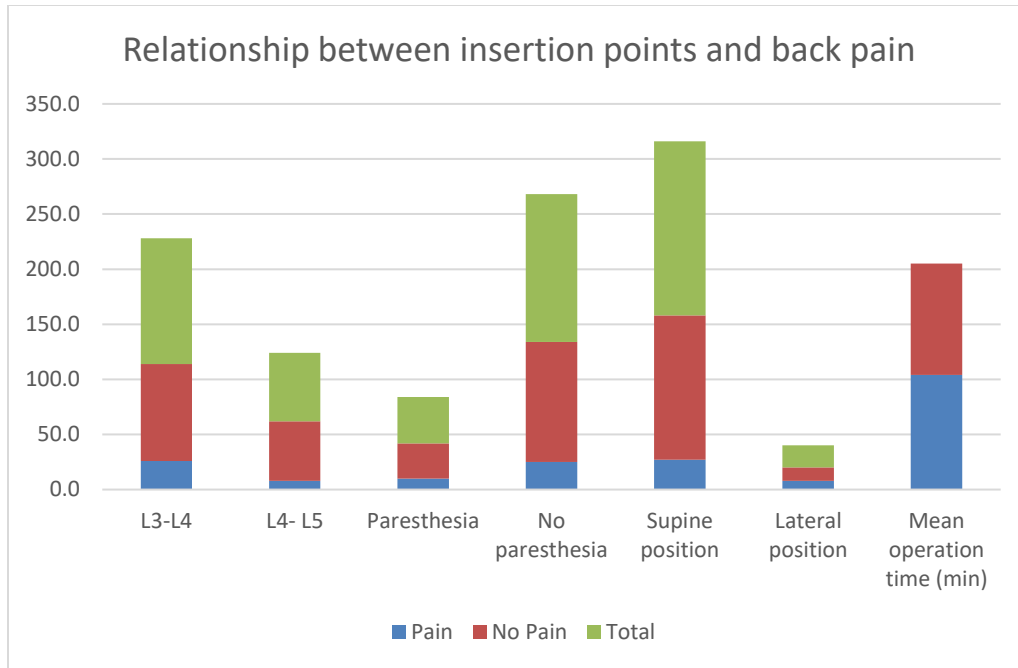
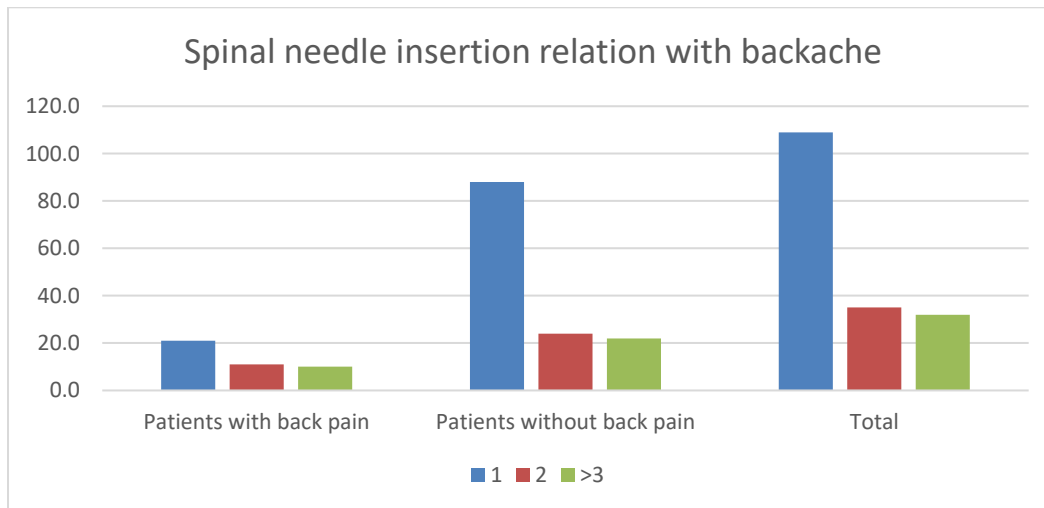


Table-III: The Relationship Between the Frequency of Spinal Needle Insertion and the Incidence of Back Pain

Frequency of needle insertion	Patients with back		Patients without back		Total
	n	%	n	%	
1	21.0	19.50	88.0	80.50	109.0
2	11.0	31.00	24.0	69.00	35.0
>3	10.0	31.00	22.0	69.00	32.0

PV > 0.05



The association among paresthesia feelings at the time of induction of spinal anesthesia & occurrence of pain in back following spinal anesthesia is

elaborated in Table-2. The start of the pain in ninety-one percent patients happened in first six hours following healing of SA. The pain finished after

forty-eight hours only in the case of 8 patients & not more than twelve hours in twenty-four patients.

DISCUSSION:

Transient lumbar pain has been mentioned to happen in the patients having spinal anesthesia with the utilization of five percent hyperbaric lignocaine. The occurrence TLP is very high this drugs in patients having operation in lithotomic position & in outpatients [10]. In another research work conducted in Tanzania reported the occurrence of less pain in back was 38/5% [11]. In this research work, the occurrence of momentary back pain was very high after spinal anesthesia HL (hyperbaric lidocaine) as compared to HB (hyperbaric bupivacaine). It may be hypothesized that the cause of the high back pain in the group of five percent lidocaine could be whole muscles motor block with support the spine [12, 13]. While comparing the HL five percent with the HB bupivacaine 0.5%, there is an association among the PMB (potent motor block) persuaded by these 2 agents [12, 13]. A. Hiller & colleagues concluded twenty-seven percent occurrence of momentary back pain after SA in the patients who underwent surgery in supine position [13]. This finding is similar to results of this research work. In this research work, less pain is back with positions of lateral and supine observed in forty percent and seventeen percent respectively. The improvement of pain in back after spinal anesthesia in patients on the surgery table with lateral position may be because of musclogligamental tension & great flat spine than the positioning of supine [10]. Middleton & colleagues concluded the back pain as an outcome of supine position on surgery table has in twenty percent patients undergoing anesthesia [14]. Inch work, there was a very high occurrence of pain in back in supine position.

CONCLUSION:

To decrease the occurrence of back pain happening after spinal anesthesia, these points are very important; the utilization of hyperbaric 0.5 percent bupivacaine is better as compared to the lidocaine in SA and spinal space of L4-5 should be utilized for the insertion of the spinal needle.

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