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Induction Position of Spinal Anaesthesia- Patient's Preference

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Abstract **Original Research Article**

To explore the patient's preference of position for induction of spinal anaesthesia with relation to the demographic profile, 200 patients were selected for this study with the inclusion and exclusion criterias. Ethical committee approval and informed consent were obtained. Patients were informed about the proposed position for the procedure during the pre-anesthetic visit. Patients were given adequate time to choose the choice of position. They were given structured survey questionnaire (as used in the previous study) composed of these sections:(a) demographic data (like sex, age, socioeconomic status and educational level) and clinical data. (b) Patient's preference of choice of position for spinal anaesthesia. Majority of the patients preferred to have lateral decubitus position for the induction of spinal anaesthesia.
Keywords: Spinal anaesthesia, induction position, lateral decubitus position, sitting position, demographic profile.

INTRODUCTION

Most commonly practised anaesthesia for below umbilical surgical procedure is spinal anaesthesia. It is chosen because of simplicity of technique and being cost effective. Unlike general anaesthesia, it does not produce any airway related problems, post operative nausea and vomiting and it does not involve any special instruments for induction of anaesthesia. The problem for acceptance of spinal anaesthesia by the patients are fear about the needle prick, fear of backache and headache after the post procedure period and also being awake during the surgical procedure

For performing spinal anaesthesia, the patient needs to adopt a position advised by the anaesthesiologist. Spinal anaesthesia is commonly induced in two positions, lateral decubitus and sitting. In spite of increasing use of spinal anaesthesia, the induction position has not been standardised. In the current practice, the initiation of spinal anaesthesia is at the discretion of the anaesthesiologist.

This study was conducted in the pre-operative assessment clinic to survey the patient's preference of choice of position for induction of spinal anaesthesia and to assess its relation with demograghic profile like sex, age, socioeconomic status and educational level

Aim and objectives

To explore the patient's preference of position for induction of spinal anaesthesia with relation to the demographic profile**.**

MATERIALS AND METHODS

This cross sectional study was performed in Shanmuga institute of medical sciences, salem in the year of 2017 and 2018 in pre anaesthesia assessment clinic. Patients involved were those patients scheduled for below umbilical surgeries under spinal anaesthesia. After getting institutional ethical committee approval with the informed consent from the patient, 200 patients belong to ASA I AND II with age group between 20-60 years of both gender involved in this study. The exclusion criteria were patient's refusal, ASA grade more than II, pregnancy, age less than 20 years and more than 60 years, the patients with psychiatric illness, local infection at the site of spinal needle prick, septicaemia, coagulopathy, any other systemic diseases and all emergency surgical patients.

Patients were informed about the proposed positions for the procedure during the pre-anesthetic visit. A written informed consent was obtained separately before the operation. Patients were given adequate time to choose the choice of positions. They were given structured survey questionnaire (as used in the previous study) composed of these sections:(a) demographic data (like sex, age, socioeconomic status and educational level) and clinical data. (b) Patient's

preference of choice of position for spinal anaesthesia. Any concern about the position was clarified by the investigator and Data were collected by the co-investigator.

Statistical methods

Groups were considered as primary outcome between variable. Demographic data like sex, age, socioeconomic status and educational level were reported in terms of frequency distribution and the results were reported and analysed in terms of frequency and percentages

Descriptive analysis: Descriptive analysis was carried out by mean and standard deviation for quantitative variables, frequency and proportion for categorical variables. The association between explanatory variables and categorical outcomes was assessed by cross tabulation and comparison of percentages. Odds ratio along with 95% CI is presented. Chi square test was used to test statistical significance. P value < 0.05 was considered statistically significant.

RESULTS

A total of 200 subjects were included in the analysis

Table-1: Descriptive analysis of demographic parameter in study population (N=200)

Demographic parameter	Frequency	Percentage
Gender		
Male	96	48%
Female	104	52%
Age groups in years		
20-30	43	21.5%
31-40	40	20%
41-50	75	37.5%
51-60	42	21%
Socioeconomic status		
Low	50	25%
Middle	133	66.5%
High	17	8.5%
Educational level		
Uneducated	20	10%
Primary school	29	14.5%
High school	45	22.5%
Secondary school	65	32.5%
Degree	41	20.5%

Among the study population, 96(48%) were male participants and remaining 104(52%) were female participant, 43(21.5%) participants were aged 20 to 30 years, 40 (20%) were aged 31 to 40 years, 75 (37.5%) were aged 41 to 50 years, 2 (4.08%) were 51 to 60 years. Among the study population, 50 (25%) participants were low, 133 (66.5%) were middle and 17 (8.5%) were high. Among the study population, 20 (10%) participants were uneducated, 29 (14.5%) were Primary, 45 (22.5%) were high school, 65 (32.5%) were secondary and 41 (20.5%) were degree.

Out of 96 people with male, 89 (92.70%) were lateral decubitus position, 5 (5.20%) were sitting position and 2 (2.08%) were left to anesthesiologist choice. The difference in the proportion of male between group was statistically significant (P value <0.001). Out of 104 people with female, 102 (98.07%) were lateral decubitus position, 2 (1.92%) were sitting position and 0 (0%) were left to anesthesiologist choice. Out of 43 people with 20 to 30 years age group, 33 (76.74%) were lateral decubitus position, 6 (14.95%) were sitting position and 4 (9.30%) were left to anesthesiologist choice. The difference in the proportion of 20 to 30 years' age group between group was statistically significant (P value <0.001). Out of 40 people with 31 to 40 years' age group, 25 (62.50%) were lateral decubitus position, 5 (12.50%) were sitting position and 10 (9.30%) were left to anesthesiologist choice. The difference in the proportion of 31 to 40 years' age group between group was statistically significant (P value <0.001). Out of 75 people with 41 to 50 years age group, 68 (90.66%) were lateral decubitus position, 2 (2.67%) were sitting position and 5 (6.67%) were left to anesthesiologist choice. The difference in the proportion of 41 to 50 years' age group between group was statistically significant (P value <0.001).

Out of 42 people with 51 to 60 years age group, 40 (94.23%) were lateral decubitus position, 0 (0%) were sitting position and 2 (4.76%) were left to anesthesiologist choice. Out of 50 people with low status, 50 (100%) were lateral decubitus position, 0 (0%) were sitting position and 0 (0%) were left to anesthesiologist choice. Out of 133 people with low status, 128 (96.24%) were lateral decubitus position, 4 (3%) were sitting position and 1 (0.75%) were left to

anesthesiologist choice. The difference in the proportion of middle status between group was statistically significant (P value <0.001). Out of 17 people with high status, 5 (29.41%) were lateral decubitus position, 0 (0%) were sitting position and 12 (70.58%) were left to anesthesiologist choice. Out of 20 people with uneducated, 15 (75%) were lateral decubitus position, 0 (0%) were sitting position and 5 (25%) were left to anesthesiologist choice. Out of 29 people with primary, 18 (62.06%) were lateral decubitus position, 2 (6.90%) were sitting position and 9 (31.03%) were left to anesthesiologist choice. The difference in the proportion of primary one come between group was statistically significant (P value <0.001). Out of 45 people with high school, 38 (84.44%) were lateral decubitus position, 2 (4.44%) were sitting position and 5 (11.11%) were left to anesthesiologist choice. The difference in the proportion of high school between group was statistically significant (P value <0.001).

Table-2: Results of the Survey

Demographic parameter	Lateral decubitus position (%)	Sitting position (%)	Left to anesthesiologist choice (%)	Chi-square	P - value
Gender					
Male (N=96)	89 (92.70%)	5 (5.20%)	2 (2.08%)	228.65	<0.001
Female(N=104)	102 (98.07%	2 (1.92%)	0 (0%)	*	*
Age groups in years					
20-30(N=43)	33 (76.74%)	6 (13.95%)	4 (9.30%)	54.90	<0.001
31-40(N=40)	25 (62.50%)	5(12.50%)	10 (25%)	24.37	<0.001
41-50(N=75)	68 (90.66%)	2 (2.67%)	5 (6.67%)	166.680	<0.001
51-60(N=42)	40 (95.23%)	0 (0%)	2 (4.76%)	*	*
Socioeconomic status					
Low(N=50)	50 (100%)	0 (0%)	0 (0%)	*	*
Middle(N=133)	128 (96.24%)	4 (3.00%)	1(0.75%)	355.421	<0.001
High (N=17)	5 (29.41%)	0 (0%)	12 (70.58%)	*	*
Educational level					
Uneducated(N=20)	15 (75%)	0 (0%)	5 (25%)	*	*
Primary school(N=29)	18 (62.06%)	2 (6.90%)	9 (31.03%)	19.966	<0.001
High school(N=45)	38 (84.44%)	2 (4.44%)	5 (11.11%)	79.800	<0.001
Secondary school(N=65)	50 (76.92%)	5 (7.69%)	9 (13.84%)	86.56	<0.001
Degree(N=41)	24 (58.53%)	2 (4.87%)	15 (36.58%)	26.854	<0.001

Out of 65 people with secondary school, 50 (76.92%) were lateral decubitus position, 5 (7.69%) were sitting position and 9 (13.84%) were left to anesthesiologist choice. The difference in the proportion of secondary school between group was statistically significant (P value <0.001). Out of 41 people with degree, 24 (58.53%) were lateral decubitus position, 2 (4.87%) were sitting position and 15 (36.58%) were left to anesthesiologist choice. The difference in the proportion of degree between group was statistically significant (P value <0.001).

DISCUSSION

In this study, most of the patients irrespective of the sex had chosen lateral decubitus position and this may be due to fear of having needle prick in the sitting position that we were not explored. Educational level of the patient also plays a major role for choosing the induction position with slightly more percentage of lower level and uneducated patients prefer lateral decubitus position.

In the previous study by Shahzad K .et al., [1] they explored patients with lateral position were comfortable. Alfolayen et al. [2] concluded patients in lateral position were more comfortable. Biswas et al. [3] also concluded- most patients preferred straight back position. Khurrum Shahzad *et al*. [4] concluded both sitting and lateral positions have similar effects on sensory and motor blockade and haemodynamic stability. However, patients generally found lateral position very comfortable**.** In the above studies, the reasons were not explored. In our study most of the uneducated patients were low socio economic group. Explaining about the spinal anaesthesia and position adopted during induction may relieve fear in the pre operative clinic. This makes the patient to choose their position of choice of induction so that the anaesthesiologist can get good cooperation from the patient even if he modifies the position according the clinical condition. Showkat Ahmad Bhat et al. [5] concluded patients were comfortable in lateral position. This is consistent with our study as most of the patient in all demographic profile level preferred lateral position.

CONCLUSION

Effective and correct information in the preoperative assessment clinic is a major point of view for any successful induction of anaesthesia. All patients

have the rights to be informed in detail about the position adopted during the induction of spinal anaesthesia and they have to be given a chance to choose a position for their comfortability. With this, the anaesthesiologist can get good cooperation from the patient during the induction and this would improve the anaesthesiologist and the patient relationship in the periperative period. This would also avoid dissatisfaction of the patient in the post operative period.

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