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THE PREVALENCE OF COMPLICATIONS AFTER SPINAL ANESTHESIA: A CROSS-SECTIONAL OBSERVATIONAL STUDY IN BUNDELKHAND POPULATIONS

Anaesthesiology

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ABSTRACT

The present study was a cross-sectional observational study, conducted on 200 patient's aged 18-70 in post operative unit undergone spinal anesthesia to find out the prevalence of complications. Complications recorded individual after the spinal anesthesia and performed statistical analysis on collected data. The results showed that the most prevalent complications in the recovery unit include shivering followed by hypotension, nausea, back pain, delirium, vomiting etc. The high prevalence of complications in the post-anesthetic care unit can be considered an alarm and also highlights the importance for skilled personnel and monitoring equipment in critical care unit.

KEYWORDS

INTRODUCTION

Spinal anesthesia is the most commonly and widely used anesthesia technique for lower abdominal anesthesia such as lower extremity surgery, anorectal, urologic, obstetric, and gynecologic interventions and lower abdominal procedures.[1,2] Even this anesthesia technique has a lot of complications like post-spinal back pain, nausea, vomiting shivering as apart from basic complications so many more critical complication is also occurred by spinal anesthesia such as Cardio vascular disorders, central nervous system disorders etc.[3-6] Back pain is a worldwide health problem affecting 50% and 80% of people at some time in their lives and it is a major physical and economical burden for the individual and the society[7]. The lifetime incidence of nonspecific low back pain is more than 84%, the incidence of chronic low back pain is about 23%, and 11-12% of the population suffered disability with this pain. [8] Anesthesia recovery is one of the three stages of anesthesia that begins after discontinuation of anesthetic drugs. This stage involves transferring the postoperative care unit and caring for them until they are taken to their bed. Recovery is one of the most crucial stages of anesthesia and there are many reports of high prevalence of respiratory and cardiovascular complications, nausea and vomiting, chills, restlessness, and shivering. Recent studies have indicated the high prevalence of postoperative complications via considering the above figures and facts.

Aims And Objective:

The present study aims to find out the prevalence of spinal anesthesia complications in the post operative unit of anesthesia department Rajkiya Medical College Orai Jaluan.

MATERIALS AND METHOD:

This cross-sectional observational study conducted in Dept. of Anesthesia (Post Operative Unit), Rajkiya Medical College Orai, Jalaun, Uttar Pradesh on 200 patients aged 18-70 undergone a surgery in different department such General Surgery, Orthopaedics, gynecology etc. influencing spinal anesthesia. This observational study based on questioner in which included Post Operative complications after spinal anesthesia. All the patients underwent spinal anesthesia with 0.5% Bupivacain heavy (Anawin Heavy) using the 23, 25 and 27 guage needle. The required data were collected using a set of questionnaire, consisted of complications after spinal anesthesia such as Hypotension, Bradycardia, Delirium, Nausea, Vomiting, Urinary retention, Back pain, Hypoventilation and Shivering. The data were analyzed using descriptive statistical analysis.

STATISTICAL ANALYSIS & RESULTS:

Performed ANOVA Turkey HSD statistical analysis on the observational value and found date as present below table.

Table 1.observational Values Of Different Parameters On The Bases Of Yes Or No

Variable	Category	Number (200)	Percentage (%)
Hypotension	No	177	88.5
	Yes	23	11.5
Bradycardia	No	165	82.5
	Yes	35	17.5
Delirium	No	168	84
	Yes	32	16
Nausea	No	135	67.5
	Yes	65	32.5
Vomiting	No	176	88
	Yes	24	12
Urinary retention	No	184	92
	Yes	16	8
Back pain	No	174	87
	Yes	26	13
Hypoventilation	No	189	94.5
	Yes	11	5.5
Shivering	No	110	55
	Yes	90	45
Mild		44	22
Moderate		32	16
Severe		34	17

The observational study questioner values on the bases of yes or no presented in the Table-2. In which showing shivering is most common complication of post spinal anesthesia followed by nausea, delirium Etc. Hypotension and nausea had the highest prevalence after shivering. This could be used as an applied key in the recovery unit The most common complication of spinal anesthesia in the recovery was shivering.

Table 2. Mean Value, Standard Deviation And P Value

Total no. of patients	200		
Questioner no.	9 (No)	9 (Yes)	18
Mean	164.2222	35.7778	1800
Std.Dev.	25.5234	25.5234	70.5708
P value < 0.00001			

The mean value of non complication has 164.2222 and complication has35.7778 and obtained p value is <0.00001. As per the results of ANOVA, there is highly significant relationship between gender and shivering (p>0.00001). However, the higher mean prevalence of shivering is no differentiated gender.

DISCUSSION AND CONCLUSION:

The present observational research was conducted in Rajkiya Medical college, Orai, Jalaun on the subject towards the recovery related complications. In our study, the complication after spinal anesthesia shivering is an involuntary vibration of the body due to an underlying condition such as cold and hypothermia (Dorland, 2011)[9]. In the present study, the prevalence of shivering, mostly the mild level, was equal to 22.0% and is similar to Entezari (2001)[10] and also reported to vary between 5-65% in some other studies that's resembles to our study. Further, Buggy (2000) reported that the shivering was more common among men and our findings also strengthened the same. Shivering increases the consumption of oxygen, which is necessary for the treatment of patients, especially those having the cardiovascular problems. The size of the needle used for anesthesia is also one of the factors causing postoperative shivering. Ghanei & Mehraban (2015)[11] reported that the prevalence of shivering after anesthesia using a 26 gauge needle was equal to 36%. One of the common complications towards recovery mentioned in various references is cardiovascular problems, which are manifested as sudden changes in blood pressure and heart rate. In the present study, 11.5% of patients experienced

hypotension. This can be overcome by replacing proper fluids during the surgery. In the study of Ghanei (2015),[11] shown similar as our results to prevent postoperative hypotension. In the present study, bradycardia was observed in 17.5% of participants. Poursheikhian (2012) reported that the prevalence of bradycardia was equal to 18% and its prevalence had a significant relationship with age and heart rate.[12]

The prevalence of nausea and vomiting in the present study was equal to 32% and 12%, respectively. These figures in the study of Nasiri (2006) were reported to be 10% and 2.5% as similar to our study so nausea is common compare to vomiting In addition; this group of authors also reported the prevalence of postoperative nausea and vomiting as 12%.[13]

It seems that timely diagnosed of delirium in the PACU could be a good guide for nurses in the postoperative care units to perform appropriate interventions to prevent negative complications. Regarding back pain after spinal anesthesia, earlier studies reported that the prevalence of this complication ranges between 2.5% and 54% that's given by Gregg 1992 and Schultz 1996.[14] In the present study, 13% of patients had complained regarding back pain. This is somewhat consistent with the observation by Haghighi (2012), who reported that 16% of patients experience back pain one day after anesthesia. In the present study, the prevalence of urinary retention was equal to 8%. Najaf (2012) compared the effects of lidocaine and pethidine in spinal anesthesia on the occurrence of urinary retention after anorectal surgery but no significant difference between lidocaine (33.3%) and pethidine (23.3%) in terms of causing urinary retention was evidenced. The study results also showed that 5.5% of participants experienced hypoventilation. Triyasunant (2015) stated that hypoxemia was less prevalent in elective cesarean sections and, as a result, oxygen therapy was also less common in this unit for the treatment of this complication.[15]

Most common complication of shivering and nausea were recorded but the high prevalence of complications in the postanesthetic care unit can be considered as an alarming state so skilled personnel and monitoring equipment is required in this unit. This can increase the health level of patients and prevent the waste of time and cost.

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