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Efficiency of Lumbar Epidural and Spinal Anesthesia in Elective Caesarean Section in Bangladeshi Women

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Abstract **Original Research Article**

Background: The Caesareans (C/S) segment is preferably carried out with regional procedures such as spinal and anesthesia. Both are preferred to general anesthesia, which helps the mother to stay wakeful when administering caesarean. ***Objective:*** To assess effectiveness of lumbar epidural and spinal sedation in elective cesarean segment of women in Bangladesh. ***Methods:*** This experimental study is led at tertiary medical college hospital, from March 2018 to March 2019 where composed educated assent from 150 patients were gotten for this test study. The patients selected for the study was divided into two groups: Group – I (Spinal): 50 Patients selected, Group – II (Epidural): 50 patients selected. ***Result:*** During the study, 90% patients were from rural and according intraoperative complication in group-A, 35% had hypotension where as in group-B it was 11%.37% patients were Highly satisfied in group-A where as in group-B it was 61% In group-A 71% patients were complaining of pain in the first night where as in group-B it was 6%. ***Conclusion:*** The hypotension procedure is required more often than the epidural approach for women anesthesized using a spinal anesthesia technique. Since hypotension may have a detrimental impact on the infant, further study is needed to examine the neonatal outcomes of spinal anesthesia.

Keywords: Lumbar epidural anaesthesia, spinal anaesthesia, cesarean section (CS).

INTRODUCTION

A Caesarean Section (CS) is usually undertaken if the infant or mother's lives are put at risk by a vaginal delivery. But it has also been carried out lately at the mother's invitation. For an optional CS, the mother may be examined and the form of anesthesia calculated. Regional anesthesia is worthwhile contrasted and general anesthesia so the mother stays wakeful during birth [1, 2].

Although spinal and epidural procedures are the most common regional anesthesia for CS, the acceptability in various regions of the world varies in differently [3]. According to ASA guidelines, there are no definitive answers to the decision of the spinal or epidural cell. In a new hospital study performed at South-West Thames in the UK, the prevalence of regional anesthesia was 94.9%, with 86.6% of these patients being dissected by spinal anesthesia [4].

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OBJECTIVE

General objective

- To assess effectiveness of lumbar epidural and spinal sedation in elective cesarean segment of women in Bangladesh.

Specific objective

- To detect intra-operative events between two groups
- To identify the post-operative outcomes between two groups.

METHODOLOGY

Type of study	Experimental study
Place of study	Tertiary medical college and hospital
Study period	March 2018 to March 2019
Study population	Written informed consent from 100 patients were obtained for this experimental study.
Sampling technique	Purposive

METHOD

- During the study, after taking consent from the patients. The patients had the ordinary history of single pregnancy and an ASA actual status I and II. Pre-anaesthetic assessments were done on the day before surgery. The patients with suspected or show draining aggravations, net anomaly in vertebral section, contamination in the back, presence of liver and kidney sicknesses, understanding taking anticoagulant and patient with pregnancy prompted hypertension (PIH) or preeclamptia were barred from the examination. The patients selected for the study was divided into two groups: Group – I (Spinal): 50 Patients selected, Group – II (Epidural): 50 patients selected.

DATA ANALYSIS

- After collection, data were entered into a personal computer and were edited, analyzed, plotted in graphs and tables. Data were analyzed by chi square test, Mann Whitney U tests, using the statistical package for social sciences (SPSS) version 20.

RESULTS

In table-1 shows age distribution of the patients where most of the patients in both groups belong to 31-40 years age group, 57% and 64%. The following table is given below in detail:

Table-1: Age distribution of the patients

Age group	Group-A, %	Group-B, %
21-30	36%	31%
31-40	57%	64%
41-50	8%	5%

In table-2 shows educational status of the patients where in group-A, only 5% patients were completed their graduation where in group-B 9%. The following table is given below in detail:

Table-2: Distribution of the patients according to educational status of the patients

Education of patients' parents	Group-A, %	Group-B, %
Illiterate	20%	21%
Primary	6%	12%
Secondary	21%	14%
Higher-secondary	43%	11%
Graduation or more	5%	9%

In table-3 shows parity distribution of the study group, where in group-A 52% women were in their first pregnancy followed by 28.30% were 2nd pregnancy, 19.70% were multi gravid women. Where as in gathering B 53% women were in their first pregnancy followed by 28% were second pregnancy, 19% were multi gravid women. The following table is given below in detail:

Table-3: Parity distribution of the pregnant women

Parity	Group-A, %	Group-B, %
Prime gravida	52%	53%
2nd pregnancy	28.30%	28%
Multi gravida	19.70%	19%

In figure-1 shows residential area of the patients where 90% patients were from rural. The following figure is given below in detail:

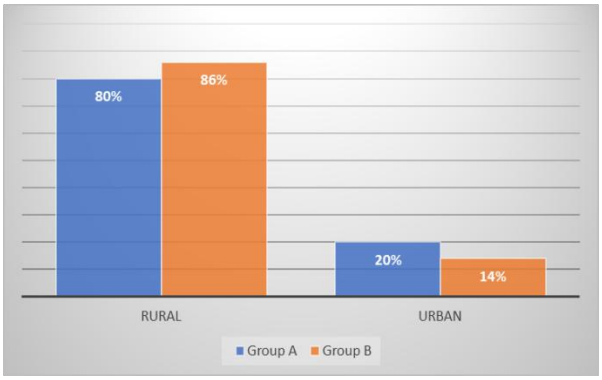

Fig-1: Residential area of the patients

In table-4 shows the baseline values of mean BP and Heart rate where there is no significant change between the two groups. The following table is given below in detail:

Table-4: The baseline values of mean BP and Heart rate.

Variable	Group-A	Group-B
SBP in mm of Hg	117.58±12.10	119.31±11.97
DBP in mm of Hg	77.58±9.62	78.26±9.22
MAP in mm of Hg	92.6± 6.49	93.8± 5.32
HR in beats per min.	80.2± 7.30	82.48±6.27

In figure-2 shows comparison of intra operative events between two groups where in group-A, 35% hypotension had where as in group-B it was 11%. The figure is given below in detail:

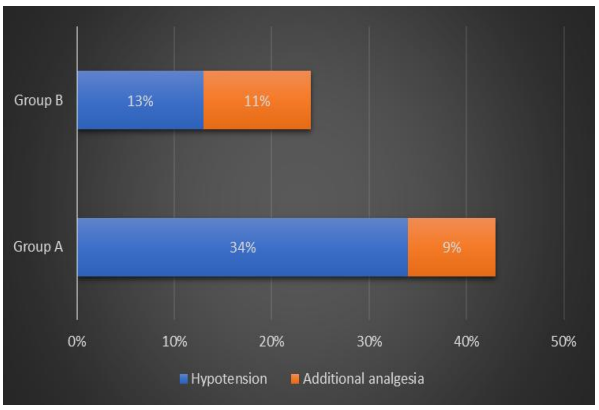

Fig-2: Comparison of intra operative events between two groups

In table-4 shows Level of maternal satisfaction where in group-A, 37% patients were highly satisfied where as in group-B it was 61%. The following table is given below in detail:

Table-4: Level of maternal satisfaction

Variable	Group-A	Group-B
Highly satisfied	37%	61%
Fairly satisfied	42%	24%
Not satisfied	21%	15%

In figure-3 shows post-operative interview of the mothers where in group-A 71% patients were complaining of pain in the first night where as in group-B it was 6%. The following figure is given below in detail:

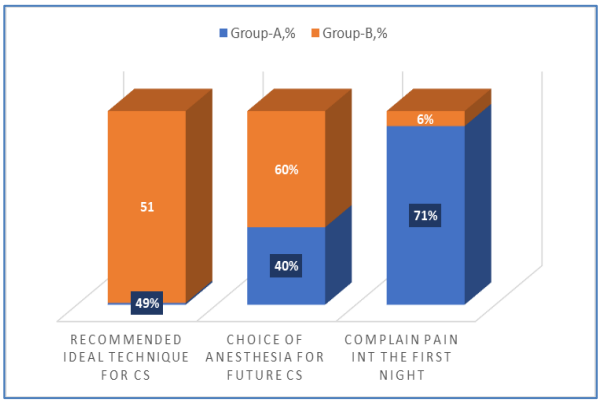

Fig-3: Post-operative interview of the mothers

DISCUSSION

Lower susceptibility to medications is triggered by regional anesthesia [5, 6]. But spinal technology places mother and fetus at highest risk of hypotension [7]. Although epidural procedures are not frequent for the occurrence of hypotension, they occur quicker and faster in the backbone method. Maternal arterial mean (MAP) and uteroplacental perfusion are decreased by hypotension [8].

It was discovered that mothers of epidural gathering were exceptionally fulfilled in contrast with spinal gathering and the quantity of mothers not happy with the sedative method is high in spinal gathering (P< 0.01). Which very like other examination [9].

Post-operative pain relief was better kept up by nonstop implantation of analgesics through epidural catheter. Though, absense of pain in the spinal gathering was kept up with intramuscular narcotics or NSAIDs.

In one study reported that, in Spinal group, 20 (68.97%) patients complained of pain in the first night of the post-operative period; while in epidural group the figure was only one (3.45%), (P = 0.000)[7].

Fifteen patients from spinal gathering and 25 patients from epidural gathering have picked the current sedative procedure for their future CS and furthermore suggested as an ideal strategy for CS [10]. Which was quite similar to our study where we found that in the postoperative interview, a significantly higher number of mothers of epidural group (P<0.01) told that they did not feel pain on the postoperative night. The mothers who were agreeable in the intraoperative period and the individuals who didn't feel torment in the post-usable period had picked the procedure for their future cesarean conveyance and furthermore suggested the strategy as an ideal for elective cesarean segment (P< 0.01).

CONCLUSION

The hypotension procedure is required more often than the epidural approach for women anesthesized using a spinal anesthesia technique. Since hypotension may have a detrimental impact on the infant, further study is needed to examine the neonatal outcomes of spinal anesthesia.

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