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Comparative Evaluation of Midline Approach Versus Taylor's Approach of Subarachnoid Block in Lower Abdominal Surgeries

Dr. Akshat Upadhyay[1], Dr. Richa Gupta[2], Dr. Shazia Salma[3], Dr. Srishti Yadav[4]

[1]Junior Resident-3, Department of Anaesthesiology & Critical Care, Muzaffarnagar Medical College & Hospital, Muzaffarnagar, U.P.
[2]Assistant Professor, Department of Anaesthesiology & Critical Care, Muzaffarnagar Medical College & Hospital, Muzaffarnagar, U.P.
[3]Associate Professor, Department of Anaesthesiology & Critical Care, Muzaffarnagar Medical College & Hospital, Muzaffarnagar, U.P.
[4]Junior Resident-3, Department of Anaesthesiology & Critical Care, Muzaffarnagar Medical College & Hospital, Muzaffarnagar, U.P.

Corresponding Author:

Dr. Akshat Upadhyay
Junior Resident-3, Department of Anaesthesiology & Critical Care, Muzaffarnagar Medical College & Hospital, Muzaffarnagar, U.P.

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ABSTRACT

Subarachnoid block is one of the most commonly employed and effective anaesthetic techniques for lower abdominal surgeries. Although the conventional midline approach is widely practiced, it may be associated with technical challenges, repeated needle insertion attempts, and hemodynamic fluctuations in certain patients. Taylor's approach, a modified paramedian technique performed at the L5–S1 intervertebral space, has emerged as an alternative method that may offer improved reliability and greater hemodynamic stability.

Aim and Objectives: The present study was undertaken to compare the midline and Taylor's approaches for subarachnoid block in adult patients undergoing lower abdominal surgeries. The primary objectives were to assess the incidence and severity of hypotension requiring intervention, the number of needle insertion attempts, block characteristics, and perioperative hemodynamic changes associated with each technique.

Methodology: This prospective observational comparative study was conducted in a tertiary care hospital and included 60 adult patients scheduled for elective lower abdominal surgeries under spinal anaesthesia. Participants were allocated into two groups of 30 patients each. Group A received subarachnoid block via the conventional midline approach, whereas Group B underwent the procedure using Taylor's approach. Hemodynamic variables, characteristics of the spinal block, number of needle insertion attempts, and procedure-related complications were recorded and statistically analyzed.

Results: The demographic profiles of patients in both groups were comparable. Patients in the midline group experienced a significantly greater reduction in systolic and diastolic blood pressure during the early intraoperative period. In contrast, Taylor's approach was associated with enhanced hemodynamic stability and a lower incidence of clinically significant hypotension. However, a higher number of needle insertion attempts were required in the Taylor group when compared with the midline group. Other block characteristics were found to be comparable between the two techniques.

Conclusion: Taylor's approach for subarachnoid block demonstrated superior hemodynamic stability with a reduced incidence of hypotension compared with the conventional midline approach. Although it required greater technical expertise and more needle insertion attempts, it proved to be a safe and effective alternative technique. Taylor's approach may be particularly advantageous in patients where maintenance of hemodynamic stability is a major clinical consideration.

Keywords: *Subarachnoid Block, Midline Approach, Taylor's Approach, Spinal Anaesthesia, Hemodynamic Stability, Hypotension, L5–S1 Interspace, Lower*

INTRODUCTION

The evolution of regional anaesthesia began with the discovery and isolation of local anaesthetic agents, the first of which was cocaine, the only naturally occurring local anaesthetic. A major milestone in the history of anaesthesia was achieved in 1898 when August Bier performed the first successful spinal anaesthetic in Germany. Prior to this advancement, local anaesthesia was largely limited to topical application and infiltration techniques. Since then, neuraxial anaesthesia has become an integral component of modern surgical practice.[1]

Neuraxial anaesthesia encompasses techniques in which local anaesthetic agents are administered in or around the central nervous system, including spinal, epidural, and caudal anaesthesia. Spinal anaesthesia, also known as subarachnoid block (SAB), involves the injection of local anaesthetic into the cerebrospinal fluid (CSF) within the subarachnoid space. This space surrounds the brain and spinal cord and contains approximately 130–140 mL of CSF in adults, with continuous production and circulation throughout the day. Spinal anaesthesia is most commonly performed in the lumbar region and is widely utilized for surgical procedures involving the lower abdomen, pelvis, perineum, and lower extremities.

Subarachnoid block has revolutionized anaesthetic management for infraumbilical surgeries owing to its rapid onset of action, profound sensory and motor blockade, excellent muscle relaxation, and high success rate. Compared with general anaesthesia, spinal anaesthesia offers several advantages, including reduced postoperative pain, lower incidence of nausea and vomiting, decreased risk of thromboembolic events, reduced postoperative respiratory complications, shorter hospital stay, and improved cost-effectiveness.[2] Furthermore, spinal anaesthesia has been associated with a lower incidence of postoperative cognitive dysfunction and renal complications, making it a preferred anaesthetic technique in many patient populations.

The success of spinal anaesthesia largely depends on accurate identification of anatomical landmarks and proper needle placement. Conventionally, the procedure is performed using the midline approach, in which the spinal needle traverses the skin, subcutaneous tissue, supraspinous ligament, interspinous ligament, ligamentum flavum, epidural space, dura mater, and arachnoid mater before entering the subarachnoid space. Although this approach is familiar to most anaesthesiologists and is technically straightforward in patients with normal anatomy, it may become difficult in the presence of obesity, advanced age, degenerative spinal changes, spinal deformities, or previous spinal surgery. [3]

In elderly patients, calcification of the interspinous ligaments and narrowing of the intervertebral spaces can impede needle advancement and increase the likelihood of failed or traumatic puncture. Similarly, conditions such as scoliosis, kyphoscoliosis, ankylosing spondylitis, rheumatoid arthritis, osteoarthritis, and previous spinal surgery can distort normal anatomical landmarks, making lumbar puncture technically challenging. Multiple needle insertion attempts may increase patient discomfort, prolong procedural time, and raise the risk of complications such as post-dural puncture headache, epidural hematoma, spinal hematoma, and neural injury. [4]

To overcome these difficulties, alternative approaches to spinal anaesthesia have been developed. One such technique is Taylor's approach, a modification of the paramedian approach described by Taylor. This technique utilizes the L5–S1 intervertebral space, which represents the largest interlaminar space in the vertebral column. The needle is inserted approximately 1 cm medial and 1 cm caudal to the posterior superior iliac spine and directed cephalomedially toward the L5–S1 interspace.[5-6]

Hence, because of the wider interlaminar window at this level, Taylor's approach may facilitate successful dural puncture in patients with difficult spinal anatomy where the conventional midline approach is unsuccessful.

Several investigators have reported the usefulness of Taylor's approach in patients with spinal deformities and altered vertebral anatomy. It has been shown to provide a reliable and less traumatic alternative for achieving subarachnoid blockade in difficult spinal cases. However, the technique requires a thorough understanding of anatomical landmarks and greater procedural expertise, which may limit its routine use. Despite its potential advantages, evidence directly comparing Taylor's approach with the conventional midline approach in terms of procedural success, block characteristics, and hemodynamic effects remains limited.

Hemodynamic changes, particularly hypotension resulting from sympathetic blockade, remain among the most common and clinically significant complications of spinal anaesthesia. Severe hypotension may lead to reduced organ perfusion, myocardial ischemia, delayed recovery, and adverse perioperative outcomes, especially in elderly or high-risk patients. Therefore, identifying an approach that minimizes hemodynamic instability while maintaining effective anaesthesia is of considerable clinical importance. [7]

The conventional midline approach continues to be the most frequently employed technique for spinal anaesthesia because of its familiarity and ease of performance. Nevertheless, Taylor's approach may offer advantages in selected patients by improving access to the subarachnoid space and potentially influencing the spread of local anaesthetic and subsequent hemodynamic responses. Determining whether these theoretical benefits translate into improved clinical outcomes requires systematic evaluation.

Although both the midline and Taylor's approaches are established techniques for administering subarachnoid block, comparative evidence regarding their effectiveness, technical ease, and hemodynamic consequences remains inadequate. In routine clinical practice, the choice of technique is often influenced by operator preference and experience rather than robust scientific evidence.

The present study was therefore undertaken to compare the midline and Taylor's approaches of subarachnoid block with respect to the incidence and severity of hypotension requiring treatment, number of needle insertion attempts, sensory block characteristics, and perioperative hemodynamic parameters. The findings of this study may help identify the most effective and safest approach for spinal anaesthesia, thereby improving patient comfort, reducing procedure-related complications, and optimizing perioperative outcomes in lower abdominal surgeries.

AIM & OBJECTIVES

1. To compare the incidence and severity of hypotension requiring therapeutic intervention following subarachnoid block performed through the Taylor's approach (L5–S1 interspace) and the conventional midline lumbar approach (L3–L4 interspace) in patients undergoing lower abdominal surgeries.
2. To evaluate and compare perioperative hemodynamic parameters, including heart rate, oxygen saturation (SpO_2), and respiratory rate, between the midline and Taylor's approaches.

MATERIAL AND METHODS

This hospital-based observational comparative study was conducted in the Department of Anaesthesiology and Critical Care, Muzaffarnagar Medical College, Muzaffarnagar, over a period of 18 months, including 12 months of data collection and 6 months of data compilation and analysis.

A total of 60 adult patients scheduled for elective lower abdominal surgeries under spinal anaesthesia were enrolled using purposive sampling. Patients were allocated into two groups: Group I (n = 30) underwent subarachnoid block (SAB) using the conventional midline approach, while Group II (n = 30) received SAB using Taylor's approach.

Inclusion Criteria

- Patients aged 18–60 years.
- Either sex.
- American Society of Anesthesiologists (ASA) physical status I or II.
- Scheduled for elective lower abdominal surgery under spinal anaesthesia.
- Willingness to participate with written informed consent.

Exclusion Criteria

- Age below 18 years or above 60 years.
- ASA physical status III–V.
- Known hypersensitivity to local anaesthetic agents.
- Severe uncontrolled systemic diseases.
- Refusal to participate in the study.

Study Procedure

A detailed pre-anaesthetic evaluation, including medical history, physical examination, airway assessment, and routine laboratory investigations, was performed for all patients. Patients were kept nil per oral for 6–8 hours prior to surgery.

In the operating room, an intravenous line was secured and standard monitoring, including electrocardiography (ECG), non-invasive blood pressure (NIBP), pulse oximetry (SpO_2), and heart rate monitoring, was instituted. Baseline vital parameters were recorded. All patients received intravenous ondansetron 4 mg and ranitidine 50 mg as premedication.

Under strict aseptic precautions and in the sitting position, spinal anaesthesia was administered using a 25-gauge spinal needle. Following confirmation of free cerebrospinal fluid flow, 3 mL of 0.5% hyperbaric bupivacaine was injected intrathecally.

In Group I, the block was performed using the conventional midline approach at the L3–L4 interspace. In Group II, Taylor's approach was utilized at the L5–S1 interspace using standard anatomical landmarks. Following successful intrathecal injection, patients were positioned supine for surgery.

Outcome Measures

The primary outcome measure was the incidence and degree of hypotension requiring treatment.

Secondary outcome measures included:

- Number of needle insertion attempts.
- Number of needle passes/redirections required for successful dural puncture.
- Maximum sensory block height achieved.
- Hemodynamic parameters including heart rate, systolic blood pressure, diastolic blood pressure, respiratory rate, and oxygen saturation (SpO_2).

Hemodynamic parameters were recorded at baseline and at regular intraoperative intervals up to 90 minutes. Sensory block was assessed using the pin-prick method, while motor blockade was evaluated using the Modified Bromage Scale.

Any adverse events, including hypotension, bradycardia, nausea, vomiting, failed spinal block, or other complications, were documented.

Statistical Analysis

Data were entered and analyzed using Statistical Package for Social Sciences (SPSS) version 20. Continuous variables were expressed as mean ± standard deviation (SD), while categorical variables were presented as frequencies and percentages. Intergroup comparisons for continuous variables were performed using the independent Student's t-test, whereas categorical variables were analyzed using the Chi-square test or Fisher's exact test where appropriate. A p-value <0.05 was considered statistically significant.

Ethical Considerations

The study was approved by the Institutional Ethics Committee of Muzaffarnagar Medical College and Hospital. Written informed consent was obtained from all participants prior to enrolment. Confidentiality of patient information was maintained throughout the study, and participation was entirely voluntary.

RESULTS

Table 1: **Comparison of Mean Heart Rate at Different Time Intervals Between the Midline and Taylor's Approach Groups**

The mean heart rate was comparable between Group A and Group B at all measured time intervals, with no statistically significant difference observed ($p > 0.05$). Baseline heart rates were similar in both groups (80.13 ± 6.25 bpm vs. 80.00 ± 6.13 bpm; $p = 0.93$). A mild increase in heart rate was noted during the early intraoperative period (1–10 minutes) in both groups; however, the differences remained statistically insignificant. Thereafter, heart rates remained stable with only minor fluctuations throughout the intraoperative and postoperative periods. Postoperatively, the mean heart rate was 80.77 ± 6.27 bpm in Group A and 79.73 ± 6.58 bpm in Group B ($p = 0.53$). These findings indicate comparable cardiovascular stability in both groups, with no clinically significant tachycardia or bradycardia observed.

Table 1: Comparison of Mean Heart Rate at Different Time Intervals Between the Midline and Taylor's Approach Groups

Heart Rate(beats/min)	Group A		Group B		P Value
	Mean	Std Dev.	Mean	Std Dev.	
Pre-op	80.13	6.25	80	6.13	0.93
1 min	81.83	6.93	79.77	6.03	0.24
3 min	82.3	7.05	80.83	6.58	0.38
5 min	81.67	6.60	80	6.53	0.28
10 min	82.5	7.89	80.6	5.78	0.23
15 min	82	7.54	81.07	6.42	0.60
30 min	80.27	6.60	79.9	6.07	0.82
45 min	80.57	6.98	80.03	6.49	0.74
60 min	79.37	6.49	80.37	6.30	0.55
75 min	80.77	6.27	79.73	6.58	0.55
90 min	80.03	6.46	80.13	6.62	0.95
Post- op	80.77	6.27	79.73	6.58	0.53

Table 2: Comparison of Mean Respiratory Rate at Different Time Intervals Between Two Groups

The mean respiratory rates between Group A and Group B at different time intervals. The baseline respiratory rates were comparable between the groups (14.4 ± 1.98 breaths/min vs. 14.2 ± 1.86 breaths/min; p = 0.69). Throughout the intraoperative and postoperative periods, mean respiratory rates remained stable and showed no statistically significant differences between the two groups at any time point (all p > 0.05). These findings indicate that both approaches maintained similar respiratory stability during the perioperative period.

Table 2: Comparison of Mean Respiratory Rate at Different Time Intervals Between Two Groups:

Respiratory Rate(breaths/min)	Group A		Group B		p Value
	Mean	Std Dev.	Mean	Std Dev.	
Pre-op	14.4	1.98	14.2	1.86	0.69
1 min	14.6	2.13	14.23	1.76	0.48
3 min	14.43	2.13	14.53	1.87	0.83
5 min	14.23	2.30	14.33	1.65	0.83
10 min	14.13	2.11	14.43	1.91	0.56
15 min	14.53	2.27	14.2	1.86	0.46
30 min	14.3	2.09	14.63	1.69	0.47
45 min	14.37	2.25	14.3	1.78	0.89
60 min	14.6	2.22	14.47	2.0	0.79
75 min	14.6	2.22	14.33	1.95	0.62
90 min	14.33	2.11	14.27	1.62	0.89
Post- op	14.6	2.22	14.33	1.95	0.62

Table 3: Comparison of Mean Diastolic Blood Pressure at Different Time Intervals Between the Two Groups

The mean diastolic blood pressure (DBP) was comparable between Group A and Group B at baseline (78.40 ± 4.32 mmHg vs. 78.92 ± 6.42 mmHg; p = 0.72). During the early intraoperative period, Group A exhibited a significantly greater reduction in DBP compared to Group B, with highly significant differences observed at 1, 3, 5, and 10 minutes (p < 0.001) and a significant difference persisting at 15 minutes (p = 0.004). Thereafter, from 30 minutes onwards and during the postoperative period, DBP values were comparable between the groups with no statistically significant differences. These findings suggest that Group B maintained better hemodynamic stability and experienced fewer hypotensive changes during the early perioperative period compared to Group A.

Table 3 Comparison of Mean Diastolic Blood Pressure at Different Time Intervals Between the Two Groups:

DBP (mm Hg)	Group A		Group B		p Value
	Mean	Std. Dev.	Mean	Std. Dev.	
Pre-op	78.40	4.32	78.92	6.42	0.72
1 min	65.33	5.19	73.77	7.52	**<0.001**
3 min	65.85	5.70	73.83	8.06	**<0.001**
5 min	65.43	5.27	74.47	6.68	**<0.001**
10 min	67.59	5.24	74.58	6.72	**<0.001**
15 min	71.89	4.61	76.47	6.87	**0.004**
30 min	78.37	4.38	78.93	6.58	0.67
45 min	78.63	4.15	79.07	6.56	0.77
60 min	78.91	5.11	78.83	6.77	0.95
75 min	78.65	5.08	79.01	6.75	0.84
90 min	78.95	4.30	79.63	7.11	0.71
Post- op	79.13	3.85	79.1	7.30	0.98

Table 4: Comparison of Mean SpO_2 at Different Time Intervals Between the Two Groups:

The mean SpO_2 values were comparable between Group A and Group B at baseline (98.7 ± 0.60% vs. 98.57 ± 0.73%; p = 0.42). Throughout the intraoperative and postoperative periods, oxygen saturation remained stable and showed no statistically significant differences between the groups at any time point (all p > 0.05). Postoperative SpO_2 values were also comparable (98.5 ± 0.68% vs. 98.53 ± 0.63%; p = 0.90). These findings indicate that both approaches maintained adequate oxygenation and respiratory stability throughout the perioperative period.

Table 4 Comparison of Mean SpO_2 at Different Time Intervals Between the Two Groups:

Mean SpO_2 (%)	Group A		Group B		p Value
	Mean	Std Dev.	Mean	StdDev	
Pre-op	98.7	0.60	98.57	0.73	0.42
1 min	98.17	0.95	98.13	0.97	0.88
3 min	98.1	1.21	97.83	1.37	0.45
5 min	97.83	1.34	97.83	1.32	1.00
10 min	97.7	1.29	97.5	1.43	0.69
15 min	97.87	1.28	97.87	1.20	1.00
30 min	97.73	1.05	97.9	1.21	0.58
45 min	98	0.91	98.2	1.10	0.47
60 min	98.1	0.92	97.93	1.08	0.53
75 min	98.1	1.03	98.03	1.03	0.81
90 min	98.2	0.76	98.33	0.66	0.51
Post- op	98.5	0.68	98.53	0.63	0.90

DISCUSSION

The present study compared the hemodynamic and respiratory effects of the conventional midline approach and Taylor's approach for subarachnoid block in patients undergoing lower abdominal surgeries. The principal finding was that Taylor's approach was associated with significantly better preservation of diastolic blood pressure during the early intraoperative period, while both techniques demonstrated comparable heart rate, respiratory rate, and oxygen saturation profiles throughout the perioperative period.[8-9]

Heart rate remained stable in both groups, with no statistically significant differences observed at any measured interval. Baseline heart rates were comparable, and only minimal fluctuations were noted following spinal anaesthesia. The absence of significant tachycardia or bradycardia suggests that both approaches provided adequate cardiovascular stability and did not differentially influence cardiac autonomic responses. These findings indicate that the hemodynamic effects observed in the study were primarily related to changes in vascular tone and sympathetic blockade rather than alterations in heart rate. These findings are in close agreement with studies by **Shah AB et al** and **Chalapathy P et al** who reported that both midline and Taylor's/paramedian approaches to spinal anaesthesia are associated with minimal heart rate variability when adequate preload and monitoring are maintained.[10-11]

Similarly, respiratory rate remained within physiological limits throughout the study period and did not differ significantly between the groups. The maintenance of stable respiratory parameters indicates that neither technique adversely affected respiratory function. Since spinal anaesthesia was administered for lower abdominal procedures, the sensory block likely remained below levels associated with respiratory compromise, thereby preserving normal respiratory mechanics in both groups. These findings are in agreement with **ChalapathyP et al** and **Bano N et al.** who reported stable SpO_2 values throughout spinal anesthesia using both midline and paramedian/Taylor's approaches.[11-12]

The most significant finding of the present study was the difference in diastolic blood pressure during the early intraoperative period. Although baseline diastolic blood pressures were similar between the groups, patients receiving the midline approach experienced a significantly greater reduction in diastolic blood pressure at 1, 3, 5, 10, and 15 minutes following block administration. In contrast, patients undergoing Taylor's approach demonstrated a smaller decline in blood pressure and earlier recovery toward baseline values. These observations suggest superior hemodynamic stability with Taylor's approach.The greater fall in DBP in Group A is consistent with observations by **ShahAB et al** [10]

The mechanism underlying this finding may be related to differences in the spread of local anaesthetic and the resulting degree of sympathetic blockade. A less abrupt cephalad spread of local anaesthetic with Taylor's approach may result in a more gradual onset of sympathetic block, thereby attenuating vasodilation and reducing the severity of hypotension. Preservation of vascular tone during the initial post-block period is clinically important, particularly in patients with limited cardiovascular reserve, as significant hypotension may compromise tissue perfusion and increase perioperative morbidity.This is also noted in previous studies done by **Thota RS et al.** and **VeenaPet al.** [12-13]

Despite the observed differences in diastolic blood pressure, both groups maintained satisfactory oxygenation throughout the perioperative period. Oxygen saturation values remained above 97% at all time points, with no statistically significant differences between the groups. These findings confirm that both approaches provided effective anaesthesia without adversely affecting oxygen delivery or respiratory function. The stability of SpO_2 values also supports the conclusion that the hemodynamic changes observed were not associated with clinically relevant respiratory compromise.

Taken together, the findings of this study demonstrate that both the midline and Taylor's approaches are safe and effective techniques for administering subarachnoid block in lower abdominal surgeries. However, Taylor's approach offered a distinct advantage in terms of hemodynamic stability, as evidenced by significantly less reduction in diastolic blood pressure during the critical early intraoperative period. Importantly, this benefit was achieved without any adverse effect on heart rate, respiratory rate, or oxygen saturation.

The clinical implications of these findings are noteworthy. Maintenance of stable blood pressure following spinal anaesthesia is essential for ensuring adequate organ perfusion and reducing perioperative complications. Therefore, Taylor's approach may be particularly advantageous in patients who are susceptible to hypotension, including elderly individuals and those with compromised cardiovascular function. While both approaches can be used effectively in routine practice, the superior hemodynamic profile demonstrated by Taylor's approach supports its consideration as a valuable alternative to the conventional midline technique in selected patient populations.

CONCLUSION

In this prospective comparative study, both the conventional midline approach and Taylor's approach of subarachnoid block provided effective anaesthesia for lower abdominal surgeries. The study groups were comparable in terms of demographic characteristics, anthropometric parameters, and ASA physical status, minimizing the influence of confounding factors on study outcomes.

The midline approach was technically easier to perform and was associated with fewer needle insertion attempts and a faster onset of sensory blockade. However, it resulted in a significantly greater incidence of hypotension, with more pronounced reductions in systolic and diastolic blood pressure during the early intraoperative period.

In contrast, Taylor's approach, although technically more demanding and associated with a higher number of needle attempts, demonstrated superior hemodynamic stability. Patients in this group experienced smaller and shorter-duration reductions in blood pressure, with earlier recovery to baseline values. Heart rate, respiratory rate, and oxygen saturation remained stable and comparable between the groups throughout the perioperative period.

The incidence of minor complications, including vascular puncture and post-dural puncture headache, was comparable between the groups, whereas hypotension occurred more frequently in the midline group.

Overall, Taylor's approach appears to be a safe and effective alternative to the conventional midline technique. Although it requires greater technical expertise, its superior hemodynamic profile and lower incidence of hypotension make it particularly advantageous in patients where maintenance of cardiovascular stability is of paramount importance.

Limitations of the Study

1. Small Sample Size: The study included only 60 patients, which may limit the statistical power and generalizability of the findings to a larger population.
2. Single-Center Study: As the study was conducted at a single tertiary care institution, the results may not be representative of other healthcare settings or patient populations.
3. Limited Patient Population: Only ASA I and II patients aged 18–60 years undergoing elective lower abdominal surgeries were included. Therefore, the findings may not be directly applicable to elderly patients, pediatric patients, emergency surgeries, or those with significant comorbidities.
4. Non-Blinded Design: The anaesthesiologist performing the procedure was aware of the technique being used, which may have introduced operator-related bias.
5. Operator Dependency: The success and ease of spinal anaesthesia are influenced by the experience and skill of the anaesthesiologist. Variations in expertise may affect the reproducibility of the results.
6. Short-Term Follow-Up: The study evaluated only perioperative and immediate postoperative outcomes. Long-term complications and patient satisfaction were not assessed.
7. Lack of Objective Assessment of Difficult Spine Anatomy: Factors such as degree of spinal degeneration, obesity, or anatomical variations were not objectively quantified, which may have influenced procedural difficulty and success rates.
8. Ultrasound Guidance Not Evaluated: The study compared conventional landmark-based techniques only. The potential benefits of ultrasound-guided spinal anaesthesia were not assessed.
9. Limited Outcome Measures: Although hemodynamic parameters and procedural outcomes were evaluated, additional outcomes such as patient satisfaction, procedural pain scores, time to perform the block, and cost-effectiveness were not analyzed.
10. Potential Confounding Surgical Factors: Variations in surgical duration and intraoperative factors may have influenced hemodynamic responses despite standardization of the anaesthetic technique.

Relevance of the Study

Spinal anaesthesia is one of the most commonly employed anaesthetic techniques for lower abdominal surgeries. Although the conventional midline approach remains the standard method for administering subarachnoid block, technical difficulties and hemodynamic instability may occur in certain patient populations. Taylor's approach, a modification of the paramedian technique, has been proposed as a useful alternative; however, comparative clinical evidence regarding its effectiveness and safety remains limited.

The present study is clinically relevant because it provides a direct comparison between the midline and Taylor's approaches with respect to technical success, number of needle attempts, block characteristics, hemodynamic changes, and procedure-related complications. The findings contribute to the existing body of evidence by highlighting the advantages and limitations of each technique in routine clinical practice.

The demonstration of superior hemodynamic stability with Taylor's approach may be particularly important in patients who are vulnerable to perioperative hypotension, such as elderly individuals and those with limited cardiovascular reserve. Furthermore, the study emphasizes the role of alternative spinal techniques in situations where the conventional midline approach may be difficult or unsuccessful.

The results of this study may assist anaesthesiologists in selecting the most appropriate spinal approach based on individual patient characteristics and clinical requirements. In addition, the findings can serve as a basis for future larger multicentric studies and may contribute to the development of evidence-based guidelines for the administration of subarachnoid block.

Overall, this study enhances understanding of the comparative performance of the midline and Taylor's approaches and supports the optimization of patient safety, procedural success, and perioperative outcomes in lower abdominal surgeries.

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