

Patient Satisfaction and Adverse-Event Profile of Preoperative Versus Postoperative Fascia Iliaca Compartment Block in Femoral and Hip Fracture Repair

Uwuigbe Osemwengie Clive^{1*}, Ikhifa Ehichioya Charles¹, Onuoha A. Chidubem²

¹Department of Anaesthesiology, Irrua Specialist Teaching Hospital, Irrua, Edo State, Nigeria

²Department of Chemical Pathology, Irrua Specialist Teaching Hospital, Irrua, Edo State, Nigeria

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*Corresponding author: Uwuigbe Osemwengie Clive

Department of Anaesthesiology, Irrua Specialist Teaching Hospital, Irrua, Edo State, Nigeria

Abstract

Original Research Article

Preoperative and postoperative fascia iliaca compartment block (FICB) are used as components of perioperative analgesic care for femoral and hip fracture repair, but the patient-centred and safety consequences of block timing require focused assessment. This prospective, single-centre, randomised comparative study included 68 adults aged 18–65 years with American Society of Anesthesiologists physical status I–III who underwent femoral or hip fracture repair at Irrua Specialist Teaching Hospital, Nigeria, between October 2021 and December 2022. Participants received 40 mL of 0.25% plain bupivacaine by anatomical FICB either before incision or at wound closure, with 34 participants in each group. The focused outcomes were satisfaction on a five-point Likert scale, reported FICB-related complications and drug-related side effects, and comparative perioperative haemodynamic findings. Satisfaction distributions differed significantly between groups ($p < 0.001$, Fisher's exact test). In the preoperative group, 2/34 participants (5.88%) reported excellent satisfaction, 29/34 (85.29%) very good satisfaction, and 3/34 (8.82%) good satisfaction; none reported poor or very poor satisfaction. In the postoperative group, 16/34 (47.05%) reported good satisfaction, 13/34 (38.23%) poor satisfaction, and 5/34 (14.70%) very poor satisfaction, with no excellent or very good responses. No FICB-related complication or drug-related side effect was reported in either group during the observed perioperative and postoperative periods. No statistically significant between-group differences were reported for pulse rate, blood pressure, mean arterial pressure, respiratory rate, or peripheral oxygen saturation. Preoperative anatomical FICB was associated with higher reported satisfaction without observed complications or detected differences in monitored physiological variables. Because the sample was small, single-centre, and lacked detailed numerical serial haemodynamic data and a specified satisfaction-assessment time, larger multicentre studies using validated satisfaction instruments and structured adverse-event surveillance are warranted.

Keywords: fascia iliaca compartment block, femoral fracture, hip fracture, patient satisfaction, adverse events, haemodynamic stability, regional analgesia.

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INTRODUCTION

Femoral and hip fractures are important causes of acute pain, disability, hospital admission, and loss of functional independence. They commonly result from road traffic accidents and falls, while hip fractures in older adults are frequently associated with osteoporosis and low-energy trauma.[1-3] Patients presenting with these injuries are often elderly and may have multiple comorbidities or be receiving several medications, including anticoagulant therapy, which can complicate perioperative management and delay definitive treatment.[4,5] The combination of severe injury, advanced age, pre-existing disease, and the physiological stress of fracture repair makes the provision of effective

and well-tolerated perioperative care particularly important.

Although analgesia is an essential component of the management of femoral and hip fractures, the quality of analgesic care cannot be assessed solely by numerical pain scores or the amount of rescue medication administered. Patient satisfaction is also an important patient-centred outcome because it reflects the perceived adequacy, comfort, acceptability, and overall experience of treatment. Poorly controlled pain may cause distress, reduce confidence in healthcare, and interfere with cooperation during positioning, nursing care, mobilisation, and rehabilitation [6, 7]. Conversely,

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analgesic techniques that provide comfort while limiting treatment-related adverse effects may improve the patient's perioperative experience and facilitate recovery. The assessment of satisfaction is therefore relevant when comparing analgesic techniques that may produce similar clinical pain outcomes but differ in their tolerability, convenience, and effect on the patient's sense of wellbeing.

Systemic analgesics remain widely used in patients undergoing femoral or hip fracture repair. Opioids are effective for severe pain but may cause sedation, nausea and vomiting, dizziness, confusion, urinary retention, and respiratory depression. [8,9] These effects are especially concerning in older patients and those with coexisting cardiovascular, respiratory, or neurological disease, because they may impair communication, delay mobilisation, and increase the need for observation or additional treatment. Non-steroidal anti-inflammatory drugs are inexpensive and readily available, but they may be associated with gastrointestinal bleeding and acute kidney injury in susceptible patients. [10,11] Their use has also been linked to concerns regarding delayed bone healing.[12] Consequently, an analgesic technique that reduces reliance on systemic medication without producing clinically important physiological instability or procedure-related complications may be valuable in this patient population.

Regional analgesia provides an alternative approach by delivering local anaesthetic close to the nerves transmitting nociceptive impulses from the injured limb. Peripheral nerve blocks are generally directed at the area of injury and may be performed using anatomical landmarks where ultrasound or nerve-stimulation equipment is unavailable.[13] The fascia iliaca compartment block (FICB) is a regional technique in which local anaesthetic is deposited in the potential space between the fascia iliaca and the iliacus muscle.[14] The spread of the solution is intended to affect the femoral, lateral femoral cutaneous, and obturator nerves, which contribute to sensory transmission from the hip, thigh, and femoral regions.[15,16] FICB is considered relatively simple, inexpensive, and suitable for perioperative analgesia in patients with painful hip or femoral conditions.[17] It has consequently been recommended for the early management of pain associated with hip fractures by professional physician associations.[15]

The potential value of FICB extends beyond the reduction of pain intensity. By limiting the need for systemic opioids, the block may help reduce opioid-associated sedation, nausea and vomiting, dizziness, confusion, urinary retention, and respiratory depression. It may also provide a more acceptable analgesic experience for patients who are concerned about these effects. However, the use of a regional block introduces additional outcomes that require evaluation, including

local anaesthetic-related symptoms, block-related complications, changes in haemodynamic variables, and patient acceptance of the intervention. Metallic taste, dizziness, confusion, urinary retention, and other reported events are clinically relevant because they may affect satisfaction even when they are transient or do not require major treatment. A complete evaluation of an analgesic technique should therefore consider both the patient's reported satisfaction and the safety profile observed during the perioperative period.

The timing of FICB may influence the patient's experience and the adverse-event profile of treatment. Preoperative administration provides analgesia before surgical positioning and incision and may reduce distress during the interval between presentation, preparation, and surgery. It may also allow the patient to enter the operative period with less discomfort. Postoperative administration, in contrast, is performed after the surgical stimulus has occurred and may be directed toward pain that is already established. Both approaches may be clinically useful, but the timing of the block could influence patient comfort, perceived quality of care, exposure to supplementary analgesics, and the occurrence or recognition of adverse events. These considerations are particularly relevant in patients with femoral or hip fractures, for whom early comfort and uncomplicated recovery are important treatment goals.

Previous investigations have reported variable findings regarding postoperative FICB. Bang *et al.*[18] found no difference in pain scores after postoperative FICB in patients undergoing hip hemiarthroplasty, whereas Gola *et al.* [19] and Atwa[20] reported significant analgesic benefits in patients with hip fractures. Other studies have described prolonged analgesia and reduced postoperative analgesic requirements after preoperative FICB.[21-24] These studies have contributed to the evidence supporting FICB, but much of the published assessment has concentrated on pain scores, duration of analgesia, or rescue analgesic consumption. Patient satisfaction and the complete adverse-event profile have received less specific attention, particularly in direct comparisons of preoperative and postoperative anatomical FICB performed in patients undergoing femoral or hip fracture repair.

Patient satisfaction is an important component of quality assessment because it incorporates dimensions of care that may not be captured by physiological measurements or analgesic consumption. A patient may report acceptable pain relief but remain dissatisfied because of nausea, dizziness, confusion, urinary retention, fear, discomfort during the procedure, or concern about treatment-related effects. Conversely, satisfaction may be high when the patient feels comfortable, adequately informed, and free from clinically significant complications. A structured five-point Likert scale provides a practical method for

recording this patient-reported outcome and permits comparison between treatment groups. The simultaneous documentation of adverse events and haemodynamic variables strengthens the assessment by determining whether differences in satisfaction occur alongside clinically relevant safety concerns.

Despite the established use of FICB for patients with femoral and hip fractures, the comparative patient-centred and safety consequences of performing the block before rather than after surgery remain insufficiently defined. In particular, it remains important to determine whether preoperative administration is associated with greater satisfaction without increasing the frequency of block-related symptoms, systemic adverse events, or haemodynamic disturbance. Clarifying these issues may assist clinicians in selecting an analgesic strategy that is not only effective but also acceptable, safe, and suitable for older or medically vulnerable patients.

This study therefore compared patient satisfaction and the adverse-event profile of preoperative versus postoperative anatomical FICB in adults undergoing femoral or hip fracture repair. Satisfaction was assessed using a five-point Likert scale, while perioperative safety evaluation included the occurrence of reported complications and adverse events such as urinary retention, dizziness, confusion, metallic taste, and other clinically relevant symptoms. Haemodynamic stability was also considered as part of the safety assessment. By focusing on these patient-reported and safety-related outcomes, the study addresses an aspect of FICB that is distinct from the comparison of postoperative pain scores, duration of analgesia, or opioid consumption. The findings may provide clinically relevant evidence for choosing the timing of anatomical FICB in settings where a simple, affordable, and well-tolerated regional analgesic technique is required.

MATERIALS AND METHODS

Study design and setting

This prospective, single-centre, randomised comparative study was conducted in the Department of Anaesthesia, Irrua Specialist Teaching Hospital, Irrua, Edo State, Nigeria, between October 2021 and December 2022. Irrua Specialist Teaching Hospital is a tertiary healthcare institution and the teaching hospital of Ambrose Alli University College of Medicine. It provides specialist healthcare services to patients from Edo State and neighbouring states.

Participants

The study population comprised adults of either sex, aged 18–65 years, classified as American Society of Anesthesiologists physical status I–III, who were scheduled for elective repair of a femoral or hip fracture. Patients were excluded if they declined participation; had uncontrolled cardiovascular or renal disease; were receiving anticoagulant therapy; had undergone previous femoral bypass surgery; had infection at the proposed

site of block placement; had a known allergy to bupivacaine or another local anaesthetic; or had an additional fracture involving another part of the body.

Ethical considerations and informed consent

Ethical approval was obtained from the Ambrose Alli University Ethics and Research Committee, Ekpoma, Edo State, Nigeria (NHREC registration number: NHREC/12/06/2013). The study protocol, including the anticipated benefits and potential risks of the procedure, was explained to eligible participants. Written informed consent was obtained before enrolment. No conflict of interest was declared.

Sample size and randomisation

The original study recruited 68 participants, with 34 participants allocated to each group. A senior resident who was not involved in the other study procedures prepared 68 folded paper slips, comprising 34 slips labelled P and 34 slips labelled Q. Each participant selected one slip from a container, and the slips were reshuffled before the next selection. Participants were not informed of the group represented by the selected label. Group P received anatomical fascia iliaca compartment block before surgical incision, whereas Group Q received the same block at wound closure before reversal of neuromuscular blockade and tracheal extubation.

The principal investigator administered the general anaesthetic and all fascia iliaca compartment blocks and could not be blinded because the timing of the intervention differed between groups. The supplied study protocol did not document blinding of the surgeons, postoperative nursing staff, or data analyst. All 68 randomised participants completed follow-up through 48 hours and were included in the analysis; no post-randomisation losses, exclusions, or withdrawals were reported.

Preoperative assessment and preparation

Participants were assessed on the ward at least one day before surgery. The assessment included the history of the injury, coexisting illnesses, medication history, drug allergies, and a comprehensive physical examination. Full blood count, serum electrolytes, urea and creatinine, and blood grouping and cross-matching were performed. Chest radiography, electrocardiography, and echocardiography were undertaken where clinically indicated, particularly in older participants. Patients fasted for 8 hours after fatty meals, 6 hours after light meals, and up to 2 hours for clear fluids in accordance with standard anaesthetic recommendations. Diazepam 10 mg was administered orally at night, with a further 10 mg dose given as premedication on the morning of surgery.

Anaesthetic technique and haemodynamic monitoring

On arrival in the operating theatre, standard monitoring was applied, including electrocardiography, non-invasive blood pressure, pulse oximetry, respiratory rate, temperature, and mean arterial pressure. Baseline measurements were recorded, and two 16-gauge intravenous cannulae were inserted. All participants received general anaesthesia with endotracheal intubation. After preoxygenation with 100% oxygen for 5 minutes, anaesthesia was induced with propofol 2–3 mg/kg intravenously. Tracheal intubation was facilitated with suxamethonium 2 mg/kg. Anaesthesia was maintained with isoflurane 1–2% in 60% oxygen in air, and neuromuscular blockade was maintained with atracurium 0.3 mg/kg. Standardised intraoperative analgesia comprised morphine 0.3 mg/kg, paracetamol 15 mg/kg, and ketorolac 0.5 mg/kg intravenously. No additional intraoperative analgesic was administered after this regimen.

Heart rate, systolic and diastolic blood pressure, mean arterial pressure, respiratory rate, peripheral oxygen saturation, end-tidal carbon dioxide, and electrocardiographic variables were recorded at 5-minute intervals throughout the intraoperative period. Participants were observed for features suggestive of local anaesthetic toxicity or clinically important physiological disturbance, including hypotension, haemodynamic instability, bradycardia, and arrhythmias. Intraoperative fluids were administered as normal saline at 10 mL/kg during the first hour and 5 mL/kg/h thereafter. Additional crystalloid or blood replacement was provided when clinically significant blood loss or transfusion triggers were identified.

At the end of surgery, the oropharynx was suctioned, and neuromuscular blockade was reversed with neostigmine and glycopyrrolate. The trachea was extubated when accepted clinical criteria had been met. Supplemental oxygen was administered by face mask. Participants were observed for 15 minutes before transfer to the post-anaesthesia care unit and were transferred to the ward after achieving an Aldrete score of at least 9. Monitoring of relevant physiological variables continued during the immediate postoperative period and subsequent ward observation.

Anatomical fascia iliaca compartment block

The fascia iliaca compartment block was performed using the anatomical landmark technique with the participant in the supine position. The anterior superior iliac spine and pubic tubercle on the side of the fracture were identified, and an imaginary line between the two landmarks was divided into three equal parts. The needle insertion point was located 1 cm caudal to the junction of the lateral and middle thirds. The skin was prepared with 0.5% chlorhexidine and infiltrated with 2 mL of 2% lidocaine.

A short-bevel or blunt needle was inserted perpendicular to the skin and advanced through the fascia lata and fascia iliaca, identified by two distinct fascial pops. After negative aspiration for blood, 40 mL of 0.25% plain bupivacaine was injected incrementally, with aspiration after each 5-mL aliquot. Approximately 20 mL was administered initially, followed by the remaining 20 mL. Gentle pressure was applied to the injection site for approximately 2 minutes, and a sterile dressing was placed.

Participants in Group P received the block before surgical incision, and surgery commenced 15 minutes after completion of the injection. Participants in Group Q received the same block, using the same dose and technique, at wound closure before reversal of neuromuscular blockade and tracheal extubation. The principal investigator performed all blocks. During and after each block, participants were observed for clinically apparent complications, including paraesthesia, signs of inadvertent intravascular injection, local anaesthetic toxicity, haemodynamic instability, bradycardia, and arrhythmia.

Assessment of satisfaction and adverse events

For the present focused analysis, the primary outcome was patient satisfaction with perioperative analgesic care. Satisfaction was assessed using a five-point Likert scale with the following response categories: excellently satisfied, very satisfied, satisfied, dissatisfied, and extremely dissatisfied.[25] The response was recorded for each participant and compared between the preoperative and postoperative FICB groups.

The secondary safety outcomes were the occurrence of reported adverse events and the perioperative haemodynamic profile. Adverse-event surveillance included paraesthesia, urinary retention, dizziness, confusion, metallic taste, nausea, vomiting, cardiovascular changes, haemodynamic instability, bradycardia, arrhythmias, clinical features of local anaesthetic toxicity, and any other clinically apparent complication. Events were recorded during the block procedure, the intraoperative period, immediate recovery, and postoperative follow-up as documented in the study records. The haemodynamic assessment included serial heart rate, blood pressure, mean arterial pressure, oxygen saturation, respiratory rate, electrocardiographic findings, and other monitored variables. The analysis was directed toward determining whether the timing of FICB was associated with differences in patient satisfaction, adverse-event frequency, or haemodynamic stability.

Postoperative care was provided according to the institutional protocol. Paracetamol 15 mg/kg and ketorolac 0.5 mg/kg were administered every 6 hours, while morphine 0.3 mg/kg was available when additional analgesia was clinically required. Participants were

followed for 48 hours after surgery, and all reported adverse events and clinically relevant physiological abnormalities were documented.

Data collection and statistical analysis

Sociodemographic, clinical, intraoperative, recovery, and postoperative safety data were recorded on a structured data-collection form. Perioperative data were collected by a junior anaesthetist who had been instructed in the study assessment procedures and was not involved in administering the anaesthetic or performing the blocks. Postoperative observations were recorded by ward nurses trained in the relevant assessment procedures. Data were entered into Microsoft Excel, checked, and analysed using IBM Statistical Package for the Social Sciences, version 25.

Continuous variables, including haemodynamic measurements, were summarised as mean and standard deviation when approximately normally distributed, or as median and interquartile range when non-normally distributed. Categorical variables, including Likert satisfaction responses and adverse-event categories, were presented as frequencies and percentages. Between-group comparisons for normally distributed continuous variables used the independent-samples Student's *t* test, whereas the Mann–Whitney *U* test was used for non-normally distributed continuous variables. Categorical outcomes were compared using Fisher's exact test. Where satisfaction responses were analysed as ordered categories, the distribution across the five Likert responses was retained rather than combining categories unless the prespecified analysis plan stated otherwise. All tests were two-sided, and $p < 0.05$ was considered statistically significant.

The analysis included all 68 randomised participants according to their allocated groups. The study was reported as a comparison of preoperative and postoperative anatomical FICB with respect to patient satisfaction, reported adverse events, and haemodynamic stability. Outcomes concerning postoperative pain-score superiority, time to first analgesic request, and total opioid consumption were not included in the present focused analysis.

RESULTS

Participant flow and baseline characteristics

A total of 68 participants were recruited and randomised, with 34 allocated to the preoperative FICB group and 34 to the postoperative FICB group. All randomised participants completed follow-up through 48 hours and were included in the analysis; no post-randomisation losses, exclusions, or withdrawals were reported. Group P received anatomical FICB before surgical incision, whereas Group Q received the same

block at wound closure. Baseline demographic and clinical characteristics were comparable between groups. The mean age was 37.50 ± 2.41 years in the preoperative group and 40.73 ± 2.57 years in the postoperative group. The groups were also similar with respect to sex, body mass index, fracture diagnosis, and ASA physical-status classification. These findings indicate that the two treatment groups were broadly comparable at enrolment and provide context for the subsequent patient-reported and safety comparisons.

Patient satisfaction

Patient satisfaction differed markedly between the two groups on the five-point Likert scale (Table 1). In the preoperative FICB group, 2/34 participants (5.88%) rated their experience as excellent, 29/34 (85.29%) as very good, and 3/34 (8.82%) as good. No participant in this group reported a poor or very poor experience. In the postoperative FICB group, no participant selected excellent or very good; 16/34 (47.05%) rated satisfaction as good, 13/34 (38.23%) as poor, and 5/34 (14.70%) as very poor. Thus, all participants in the preoperative group reported satisfaction of good or better, compared with 16/34 participants (47.05%) in the postoperative group. The between-group distribution was statistically significant ($p < 0.001$, Fisher's exact test).

Adverse events and haemodynamic findings

No FICB-related complication or drug-related side effect was reported in either group during the immediate perioperative period or the 24–48-hour postoperative observation period. Specifically, no paraesthesia, nerve injury, systemic local-anaesthetic toxicity, or other clinically apparent complication was reported. The absence of reported events was observed in all 34 participants in each group. Because no event occurred, a comparative event-rate estimate could not demonstrate a between-group difference, and the result should be interpreted as absence of reported complications in this sample rather than proof that uncommon complications cannot occur.

Baseline vital parameters did not differ significantly between groups. Similarly, no statistically significant between-group differences were reported in the intraoperative profiles of pulse rate, systolic blood pressure, diastolic blood pressure, mean arterial pressure, respiratory rate, or peripheral oxygen saturation. These findings indicate that the timing of anatomical FICB was not associated with a detectable difference in the recorded haemodynamic or respiratory variables under the study conditions. Exact numerical values for the serial vital-sign measurements were not provided in the supplied results; therefore, the finding is reported as a comparative significance result rather than as evidence of formal haemodynamic equivalence.

Table 1: Patient satisfaction on the five-point Likert scale

Satisfaction category	Preoperative FICB (n=34)	Postoperative FICB (n=34)
Excellent	2 (5.88)	0 (0.00)
Very good	29 (85.29)	0 (0.00)
Good	3 (8.82)	16 (47.05)
Poor	0 (0.00)	13 (38.23)
Very poor	0 (0.00)	5 (14.70)
Overall comparison		p<0.001*

Data are presented as n (%). The overall distribution was compared using Fisher's exact test; *p<0.05.

Table 2: Reported complications and comparative physiological findings

Safety outcome	Preoperative FICB (n=34)	Postoperative FICB (n=34)
Any reported FICB-related complication	0/34 (0.00)	0/34 (0.00)
Any reported drug-related side effect	0/34 (0.00)	0/34 (0.00)
Reported haemodynamic or respiratory difference	None significant	None significant

No FICB-related complications or drug-related side effects were reported in either group. The haemodynamic statement reflects the supplied comparative results; serial numerical values were not available for extraction.

DISCUSSION

This focused analysis found that preoperative anatomical FICB was associated with higher patient-reported satisfaction than postoperative administration, without reported FICB-related complications, drug-related side effects, or significant differences in the recorded perioperative haemodynamic variables. The principal patient-reported finding was the marked separation of the Likert-scale distributions: 100% of participants in the preoperative group rated their experience as good or better, compared with 47.05% in the postoperative group. The principal safety finding was that no participant in either group was reported to have a block-related complication or study-drug side effect during the immediate or 24–48-hour observation period.

The higher satisfaction observed after preoperative FICB may reflect the timing of comfort relative to surgical preparation and incision. A block performed before incision may allow the participant to experience less discomfort during positioning and the transition to surgery, whereas postoperative administration occurs after the surgical stimulus has already taken place. This interpretation is plausible but remains speculative because satisfaction is influenced by several factors, including communication, expectations, the perceived quality of nursing and anaesthetic care, recovery from general anaesthesia, and the overall postoperative experience. The present data therefore support an association between preoperative block timing and higher satisfaction, but they do not establish that timing alone caused the difference.

The satisfaction finding is consistent with the broader view that patient satisfaction is an important indicator of the quality of anaesthesia and analgesic

care.[26,27] Previous studies have also reported high satisfaction after regional analgesia or FICB, although the instruments and clinical settings have differed. Wu *et al.*[28] assessed satisfaction as an outcome of regional anaesthesia and analgesia, while Nie *et al.*[29] reported high satisfaction after FICB using a multidimensional assessment. The present study used a five-point Likert scale focused on the participant's experience with the analgesic technique. Because satisfaction is multidimensional, a single global scale may not distinguish the effects of pain relief, communication, procedural comfort, adverse symptoms, and general postoperative wellbeing. The observed group difference should therefore be interpreted as a difference in reported overall analgesic satisfaction rather than as a complete measure of every component of perioperative care.

No FICB-related complication or drug-related side effect was reported in either group. This finding is compatible with reports describing anatomical FICB as a practical regional technique with a favourable safety profile in patients with painful hip or lower-limb conditions. [30,31] Kumie *et al.*, [32] and Yu *et al.*, [33] also described the relative safety of FICB in lower-limb fracture care. Nevertheless, a sample of 68 participants has limited ability to detect uncommon events. The absence of paraesthesia, nerve injury, systemic local-anaesthetic toxicity, or other reported complications should therefore be described as a reassuring observation in this cohort, not as evidence that serious or rare complications are impossible. Continuous vigilance, appropriate aspiration and incremental injection, immediate access to resuscitation equipment, and postoperative observation remain necessary whenever local anaesthetic blocks are performed.

The lack of significant differences in pulse rate, blood pressure, mean arterial pressure, respiratory rate, and peripheral oxygen saturation provides additional reassurance that preoperative and postoperative anatomical FICB did not produce a detectable difference in the monitored physiological variables. This finding should, however, be interpreted cautiously. The supplied

results did not provide the numerical values, confidence intervals, or prespecified equivalence margins for the serial measurements. Consequently, a non-significant *p*-value cannot establish that the two timing strategies are physiologically equivalent; it indicates only that a statistically significant between-group difference was not detected in the available sample. Future reports should present the absolute haemodynamic values at clinically relevant time points, the magnitude of between-group differences, and confidence intervals.

The present findings should also be considered in light of the study's methodological limitations. The principal investigator performed all blocks and could not be blinded to allocation. Blinding of surgeons, postoperative nurses, and the data analyst was not documented, and knowledge of treatment timing may have influenced participant expectations or the assessment of satisfaction. The exact time at which the Likert scale was administered was not specified in the supplied methodology, which limits interpretation of the temporal relationship between the block, recovery, and satisfaction assessment. The study was conducted at a single centre and included a relatively small sample of adults aged 18–65 years with ASA physical status I–III. Accordingly, the findings may not be generalisable to frail older adults, patients with multiple comorbidities, or patients receiving anticoagulants, who represent an important proportion of the wider hip-fracture population. In addition, the adverse-event results were reported as aggregate absence of complications rather than as a detailed event-by-event table with prespecified definitions and observation windows.

The clinical implication is that preoperative anatomical FICB may be a useful option when the goal is to improve the patient's perceived analgesic experience without an observed increase in reported complications or haemodynamic disturbance. This may be particularly relevant in resource-limited settings where the anatomical landmark technique is used and ultrasound equipment is unavailable.[1,34] However, the satisfaction result should not be interpreted as proof of superiority for all clinical outcomes, and the absence of reported adverse events should not replace systematic monitoring for local-anaesthetic toxicity, neurological symptoms, cardiovascular changes, nausea, vomiting, urinary retention, dizziness, confusion, or other patient-reported problems. Satisfaction assessment should be incorporated alongside clearly defined safety surveillance rather than used as a substitute for it.

Future multicentre studies should enrol larger and more clinically diverse populations, including frail older patients and those with common fracture-related comorbidities. They should prespecify the timing of Likert-scale administration, use a validated patient-satisfaction instrument or a clearly defined multidimensional questionnaire, and distinguish satisfaction with analgesic efficacy from satisfaction

with communication, procedural comfort, and overall perioperative care. Adverse events should be defined prospectively and reported individually with severity, timing, treatment, and resolution. Serial haemodynamic results should be reported numerically with effect estimates and confidence intervals. Further research should also assess whether satisfaction is associated with mobilisation, delirium, hospital length of stay, functional recovery, and cost, while maintaining a clear separation between patient-reported acceptability and other analgesic outcomes.

CONCLUSION

In this prospective randomised single-centre study of adults undergoing femoral or hip fracture repair, preoperative anatomical fascia iliaca compartment block was associated with higher patient-reported satisfaction than postoperative administration. All participants in the preoperative group rated satisfaction as good or better, compared with 47.05% in the postoperative group, and the overall five-point Likert-scale distributions differed significantly ($p < 0.001$). No FICB-related complication or drug-related side effect was reported in either group, and no statistically significant between-group difference was reported for the monitored haemodynamic or respiratory variables. These findings suggest that performing FICB before incision may improve the perceived analgesic experience without an observed increase in reported safety events under the conditions of this study. The absence of observed complications should nevertheless be interpreted as a reassuring finding in this sample rather than evidence that uncommon adverse events cannot occur. The conclusions are limited by the modest sample size, single-centre design, incomplete documentation of blinding, unspecified timing of satisfaction assessment, and lack of exact serial haemodynamic values. Larger multicentre studies should use validated multidimensional satisfaction instruments, prespecified adverse-event definitions, active safety surveillance, and complete numerical reporting of physiological outcomes before firm conclusions about comparative safety and generalisability are drawn.

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