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Review report

Final title: Effectiveness of lateral femoral cutaneous and femoral nerve block in managing postoperative pain for hemiarthroplasty patients: A randomised controlled trial

Title at submission: Exploring the effectiveness of lateral femoral cutaneous and femoral nerve block in managing postoperative pain for hemiarthroplasty patients: A randomized controlled trial

Submission date: 2-Oct-24
Revised submission: 7-Jan-25
Accepted: 7-Jan-25

Reviewer C: Anonymous

Overview
This manuscript explores the efficacy of separate lateral femoral cutaneous and femoral nerve blocks compared to the conventional fascia iliaca compartment (FIC) block for postoperative pain management in hemiarthroplasty patients. Through a randomised controlled trial involving 60 patients, the study found that the separate nerve blocks significantly extended pain relief duration and reduced the need for rescue analgesia compared to the FIC block. The manuscript is well-structured, and the methodology appears sound. However, it could benefit from clearer elaboration on patient demographics and additional statistical data to support the presented conclusions.

1.	**Comment**	This study addresses an important issue in pain management for hemiarthroplasty patients, presenting a well-structured trial that offers promising insights into non-opioid options. The methodology is clear, and the results are easy to follow, making the findings accessible. However, adding more details on patient demographics and expanding the statistical analysis could make the conclusions even stronger. Discussing limitations in more depth and comparing the results to similar studies would help place the findings in a broader context. Overall, this work is valuable, and with a bit more detail, it could be even more impactful.
	Response	The title has been revised.

Reviewer E: Krishna Priya Das, ORCID: 0000-0002-4963-4018, COI: None

Overview
This study investigated the effectiveness of nerve block in managing post operative pain management for hemiarthroplasty. hemiarthroplasty can be done through different approach but which approach was used this study, didn't mention here, and hip joint mainly supplied by sciatic nerve, femoral nerve and obturator nerve but I couldn't find anything regarding sciatic nerve and obturator nerve.

2.	**Comment**	Does the abstract provide a complete and accurate description of the content of the article? = **No** Methodology and results have some disparity.
	Response	The disparity is not mentioned here. Therefore, I'm skipping this point.
3.	**Comment**	Are the study objective(s) clearly stated and logical? = **No** Objective should be clearer, it may include the efficacy of both group and also duration of post operative pain management.
	Response	The study objective is revised accordingly (Line no. 150-153).
4.	**Comment**	Is the rationale/justification for conducting the study clear?? = **No** Approach of hemiarthroplasty should be included for postoperative pain management. Page-6-L156-158 Duration of study was only 8 months, but no enrolled patient was 60, it is too much, duration may be increased.
	Response	Hemiarthroplasty was done in a lateral approach. (Added in line no. 184-185) Regarding the duration of the study: We deeply apologize that this information was not updated; as we got a grant for this study, we had to submit a periodical report on the progress of the study. That duration was from one of the progress reports of the study. Before submitting the manuscript, we missed this. The study duration is 11 months (from May 2023- May 2024. (Corrected in line number 159-160) Regarding the inclusion criteria, again we want to apologize. It's a gross mistake that was not corrected. Initially, our idea was to include total hip arthroplasty. That's why we set this inclusion criterion to exclude paediatric cases. It is corrected line number 160-161.
5.	**Comment**	Are the methods described in sufficient detail so that the study could be reproduced? = **No** The P-6, L-156 to 163. Methodology needs to be corrected, age of hemiarthroplasty should not be <50 yrs, after exclusion (to fulfil all exclusion criteria) it's very difficult to get 60 patients within 8 months period.
	Response	Responded to the previous section.
6.	**Comment**	Is the study design robust and appropriate to the stated objective(s)? = **No**

		Objective should be more clear, it may include the efficacy of both group and also duration of post operative pain management. In study procedure, it should be clear either US guided block or ..? 3 years experience is good enough but P-7, L-187-89.
	Response	Objectives are corrected accordingly (Line no. 150-153). The study procedure is corrected (Line no. 195-198).
7.	**Comment**	Are statistics used appropriately and described fully? = **No** In footnote section, not mention which test was applied for calculation and it should be more clear.
	Response	The statistical test is described in line no. 236-242.
8.	**Comment**	Are the table(s) and figure(s) clear and appropriate to address the objective(s)? = **No** Moreover, we know, NOF fracture is a fracture of >50yrs usually but if you get >50% of young age group patient, ASA-grade 1, it should be clarify, otherwise this article would not be acceptable.
	Response	All of our patients are aged 55 or older. We divided the age group <60 and ≥ 60. It is evident that 50% of patients are below 60, but they are in the age range of 55-59 years.
9.	**Comment**	Is the Discussion section critical and comprehensive about the main message of the manuscript? = **No** Need to be improved by incorporating the relevant information.
	Response	The Discussion section has been revised.
10.	**Comment**	Are the conclusions drawn supported by the results/ data? = **No** Disparity between results section and table, even in table 1, Ist part 26% (16/60) patient only in <60 age group but in 2nd part 55% (33/60) of patient in ASA class 1. Its confusing! if really it was then you add another table include demographic variable with comorbidities. In table 2, very confusing result , its not match w results section. Please show anywhere in table, the information of rescue analgesia, whatever you show in figure it not signify anything because no unit was mention either second, minutes or hours and no statistical analysis also.
	Response	Regarding Table 1: Most of the patients in our study are ASA 1 (Normally healthy patients). It is justified because older patients who came with femur fractures have a history of falls from standing, and they are otherwise healthy. Femur fractures in older people are a common consequence of osteoporosis. Reference 1: Maffulli N, Aicale R. Proximal Femoral Fractures in the Elderly: A Few Things to Know, and Some to Forget. Medicina (Kaunas). 2022 Sep 20;58(10):1314. doi: 10.3390/medicina58101314. PMID: 36295475; PMCID: PMC9612001. Reference 2: Begum, R. A., Ali, L., Akter, J., Takahashi, O., Fukui, T., & Rahman, M. (2014). Osteopenia and Osteoporosis Among 16–65 Year Old Women Attending Outpatient Clinics. Journal of Community Health, 39(6), 1071–1076. doi:10.1007/s10900-014-9853-7 Regarding Table 2: Corrected. Statistical analysis is written in line no. 236-242
11.	**Comment**	Are statements of the manuscript supported by appropriate reference(s)? = **No** In adequate references related to this topic. Referencing was also different form, eg P-14, Ref-10 is not corelated with others.
	Response	This reference is omitted. It was mistakenly sited there.
12.	**Comment**	Is the storytelling straightforward, clear (i.e., does not impede scientific meaning or cause confusion), and logical? In method section, it should be clear of inclusion and exclusion criteria and objective of the study. Confused about your result , in table section shown better result in control group (table-2) but in result section and conclusion its reverse, very confusing. = **No**
	Response	Inclusion criteria corrected in line no. 160-161. To my knowledge, study objectives is a part of introduction and it is mentioned there. (Line no.149-152) The results section is okay, but in Table 2, the results of the study group and control group were mistakenly swapped. Table 2 is corrected (Page 16).
13.	**Comment**	Is the overall length of the article appropriate? = **No** If you think your work is exceptional, then you should give a background table, because your inclusion and exclusion were not corelated with other standard study of hemiarthroplasty.
	Response	In the background table only, data related to the study objectives is added. Inclusion criteria corrected. (Line no 160-161).
14.	**Comment**	Topic is good but information was not corelated properly, and disparity between table and manuscript proper. = **No**
	Response	The manuscript has been revised to make it informative.

Editor: M Mostafa Zaman, ORCID: 0000-0002-1736-1342

15.	**Comment**	Please drop the approval memo number from line number 155. It is given in the footnote (end of the manuscript).
	Response	The memo number dropped to line number 340.
16.	**Comment**	The study procedure should be replaced by parenteral analgesia.
	Response	The study procedure is replaced by intraoperative anaesthesia and analgesia management. (Line no. 183).
17.	**Comment**	The VAS procedure must be described in a single paragraph. You have it in two different places.

	Response	The VAS procedure is described (Line number: 188-192).
18.	**Comment**	How did you blind VAS data collection? Was it not done by one of the investigators?
	Response	VAS data was collected by three of our MD residents who were not investigators. They were not present when the designated anaesthesiologist administered the block. Therefore, they were blinded about the group allocation.
19.	**Comment**	Statistical analysis should include a multivariate analysis to adjust the results for differences in two groups, such as ASA stages. This might have impacted your results.
	Response	Multivariate analysis is done, and results are shown in results section (line no. 259-261) and table 2 (page 16)
20.	**Comment**	Has there been any adverse reaction of parental analgesia to the block? Has there been any complications?
	Response	We used 1 gm paracetamol and 5 mg dexamethasone as parenteral analgesia as adjuvant to block, which is evidence-based and recommended to administer as part of multimodal analgesia. No complications were observed. We administered a low dose of fentanyl for rescue analgesia, with no complications observed.
21.	**Comment**	Graph: The vertical axis is missing. Group names are missing in the horizontal axis. Please add a horizontal line to the box to indicate the median (50^{th} percentile).
	Response	Graph is omitted.
22.	**Comment**	Discussion: This should include more on the mechanism of actions, toxicities, etc. This deserves the readers' attention.
	Response	More about the mechanism of action of toxicity added (Line no. 287-289).