Reviewer’s report

Title: The Analgesic Efficacy and Safety of Peri-articular Injection Versus Intra-articular Injection in One-stage Bilateral Total Knee Arthroplasty: A Randomized Controlled Trial

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Reviewer: Habib Karim

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The local infiltration analgesia (LIA) in joint replacement surgeries has been well studied. However, direct comparison of peri-articular and intra-articular injection is rare to find. So, I feel the study bears scientific novelty.

Evidences and expert opinion indicates towards LIA is more effective when it has covered skin, subcutaneous tissue, fascia planes, ligaments and cartilaginous area. Here the authors have compared LIA of skin, subcutaneous tissue, fascia planes, including ligaments as PAI and only drugs injected through drainage and kept clamped for 3 hours as IAI. As the drainage tubes are usually having multiple orifices, whether the all the orifices were inside the joint or not is a technical point, which needs to be mentioned.

After knee surgery the area is not water tight. The meniscus surfaces are also not there. Moreover, Tendons and ligaments are usually considered as part of joint, and they are the mostly actively participating components for movements. Although the drug deposited into the joint is likely to have effect on the ligaments and tendons, the drug is unlikely to be leaked in and around the joint. So, whether giving IAI before surgery would have been more relevant, or why giving postoperatively through the drainage was chosen, needs discussion.

I believe that results are very much expected as the IAI has covered mostly the area where pain sensitive components were actually removed and other components got very minimal exposure to the drugs.

However, the study methodology, analysis, interpretation is good. The author also acknowledges the limitations of the study well, and the study will indirectly indicate that high volume LIA covering skin, subcutaneous tissue, fascia planes, ligaments and cartilaginous area for TKR is better. Future studies can also be performed to compare the present studies PAI method with low volume (60 mL) and existing high volume method (>100 mL) covering entire components.

Thank you
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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Yes

Are the conclusions drawn adequately supported by the data shown?
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