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Invitation to Review for Journal of Orthopaedic Surgery

1 message

Journal of Orthopaedic Surgery <onbehalf@manuscriptcentral.com>

Tue, Apr 4, 2023 at 10:20 AM

Reply-To: sujitortho@yahoo.co.in

To: komang168@yahoo.com, oensindrawati@gmail.com

03-Apr-2023

Dear Dr. irianto:

Manuscript ID OSJ-23-0078 entitled "Efficacy of combining intravenous and topical dexamethasone against postoperative pain and function recovery after total knee arthroplasty: a prospective, double-blind, randomized controlled trial" has been submitted to Journal of Orthopaedic Surgery.

I invite you to review this manuscript. The abstract appears at the end of this letter. Please let me know as soon as possible if you will be able to accept my invitation to review. Please click the appropriate link at the bottom of the page to automatically register your reply with our online manuscript submission and review system.

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I realise that our expert reviewers greatly contribute to the high standards of the Journal, and I thank you for your participation.

Sincerely,
Dr. Sujit Tripathy
Section Editor, Journal of Orthopaedic Surgery
sujitortho@yahoo.co.in, sujitortho@yahoo.co.in

Professor Kenneth Cheung
Editor-in-Chief, Journal of Orthopaedic Surgery
cheungmc@hku.hk

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MANUSCRIPT DETAILS

TITLE: Efficacy of combining intravenous and topical dexamethasone against postoperative pain and function recovery after total knee arthroplasty: a prospective, double-blind, randomized controlled trial

ABSTRACT: Background: Dexamethasone is a corticosteroid with powerful anti-inflammatory effects. This study aimed to explore whether combining intravenous and topical dexamethasone could improve postoperative pain, swelling, and function recovery after total knee arthroplasty (TKA).

Methods: In this prospective, double-blind, randomized controlled study, 90 patients undergoing primary unilateral TKA were randomized into a dexamethasone group, which received dexamethasone (10 mg) by periarticular infiltration during surgery, as well as intravenous dexamethasone (10 mg) before tourniquet release and at 12 h postoperatively; or a control group, which received equal volumes of isotonic saline instead of dexamethasone. The primary outcome was postoperative pain, as assessed on the visual analogue scale (VAS). Secondary outcomes were postoperative swelling ratio of the thigh, knee, and tibia; functional recovery in terms of range of knee motion (ROM) and daily ambulation distance; postoperative inflammation biomarkers levels of C-reactive protein and interleukin-6; and postoperative complications.

Results: Resting VAS scores at postoperative 6, 12, and 24 h, and VAS scores during motion at postoperative 2, 6, 12, and 24 h were significantly lower in the dexamethasone group. The dexamethasone group also showed significantly milder limb swelling at 24 and 48 h postoperatively, greater ROM on postoperative day 1, and longer ambulation distance on postoperative days 1 and 2, and lower levels of inflammatory biomarkers on postoperative days 1 and 2. The dexamethasone group had significantly lower incidence of postoperative nausea and vomiting.

Conclusion: The combination of intravenous and topical dexamethasone can reduce pain, swelling, and inflammation after TKA, it also can improve functional recovery and reduce the incidence of postoperative nausea and vomiting.

Efficacy of combining intravenous and topical dexamethasone against postoperative pain and function recovery after total knee arthroplasty: a prospective, double-blind, randomized controlled trial

Author's Response

Title: Efficacy of combining intravenous and topical dexamethasone against postoperative pain and function recovery after total knee arthroplasty: a prospective, double-blind, randomized controlled trial

Response to Reviewers' comments

May 10, 2023

Dear Editors and Reviewers,

Thank you for your careful consideration of our manuscript. We appreciate your response and overall positive feedback and made modifications to improve the manuscript. After carefully reviewing our primary manuscript, we responded point by point to the comments below. All inappropriate details were revised in red font and the changes were indicated below.

We hope that you will find the revised paper suitable for publication, and we look forward to contributing to your journal. Please do not hesitate to contact us with other questions or concerns regarding the manuscript. Thank you again.

Best regards,

Section Editor

Comments 1:

Congratulations to the authors on a well-designed study, which is well written.

However, the outcome reporting is incomplete.

There is no mention of analgesic use and how this differed between groups.

Response:

We want to express our sincere thanks to you for the valuable comments. We are very sorry that we did not mention the analgesic use and the difference between groups in the primary manuscript. After confirmation, the protocol for analgesic use was as follows: On the day before surgery, celecoxib (200 mg) was administered twice as a preemptive analgesic. After surgery, celecoxib (200 mg) and sustained-release oxycodone hydrochloride tablets (10 mg) were administered twice daily to control postoperative pain. If the patient was unable to tolerate the pain, define as whenever the pain score at rest was ≥ 4 or during motion was ≥ 6 , 10 mg of morphine hydrochloride was injected subcutaneously as rescue analgesia.

Secondary outcomes included postoperative consumption of morphine hydrochloride for rescue analgesia. Compared with the control group, the dexamethasone group consumed significantly less morphine during the first 24 h after surgery as well as cumulatively during hospitalization. The percentage of patients receiving rescue analgesia in the dexamethasone group was also significantly lower.

We made revisions in corresponding content and we discussed relevant content (Abstract, page 1, lines 16-17; Abstract, pages 1-2, lines 21-25; Materials and Methods, page 6, lines 124-126; Materials and Methods, page 7, lines 134-138; Results, page 9, lines 196-200; Discussion, page 11, lines 242-244; Table 2).

Comments 2:

Total range of motion is reported

It is not describe how range of motion was measured though.

please report extension and flexion individually pre and post operatively.

Response:

Thank you very much for your help to improve the manuscript. Before surgery, the flexion and extension of knee was measured using a protractor. Total range of motion was defined as the sum of flexion and extension. After surgery, the flexion and extension of knee was measured using a protractor, three times per day at 6 h apart, and the best value was used as the day's value. Total range of motion was defined as the sum of flexion and extension. In the revised manuscript, we reported extension and flexion individually pre and post operatively.

We made revisions in corresponding content and we discussed relevant content (Abstract, page 1, lines 18-20; Abstract, page 2, lines 23-28; Materials and Methods, page 7, lines 144-148; Results, page 10, lines 209-212; Discussion, pages 11-12, lines 244-248; Table 1; Table 4).

Reviewer 1:

Comments 1:

This prospective, double-blind, randomized controlled study, seems very promising. Yet in this "innovatively explored the efficacy of combining intravenous and topical dexamethasone against postoperative pain" (as stated by author in discussion) should be compared with different route regiment of Dexamethasone, not with isotonic saline as control. As a strong anti-inflammatory, Dexamethasone already has known for its effects.

Response:

Thank you very much for your modifications to improve the manuscript. As you said, as a strong anti-inflammatory drug, the role of dexamethasone has been fully demonstrated in patients undergoing TKA. A lot of studies reported that perioperative intravenous dexamethasone could reduce postoperative pain, opioid consumption, and nausea/vomiting.¹⁻⁷ A recent study compared intravenous and topical dexamethasone for TKA. This study found that topical administration of dexamethasone provided better clinical outcomes on postoperative pain management and knee swelling early after TKA, while intravenous dexamethasone was more effective in decreasing blood inflammatory biomarkers and preventing postoperative nausea.⁸ So far, no studies have explored the efficacy of combining intravenous and topical dexamethasone for TKA. Our study is the first study to combine intravenous and topical dexamethasone in patients undergoing TKA. However, we used placebo as control and we did not compare combining intravenous and topical dexamethasone with intravenous dexamethasone and topical dexamethasone directly. This is the major limitation of this study. Further studies are needed to compare these different route of dexamethasone directly.

We made revisions in the Discussion section (Discussion, pages 13-14, lines 290-309).

We also made revision to the statement "innovatively explored the efficacy of combining intravenous and topical dexamethasone against postoperative pain". (Discussion, page 11, lines 229-234).

Thank your comments again.

Reference

1. Koh IJ, Chang CB, Lee JH, et al. Preemptive low-dose dexamethasone reduces postoperative emesis and pain after TKA: a randomized controlled study. *Clin Orthop Relat Res* 2013;471:3010-3020.
2. Xu H, Zhang S, Xie J, et al. Multiple doses of perioperative dexamethasone further improve clinical outcomes after total knee arthroplasty: a prospective, randomized, controlled study. *J Arthroplasty* 2018;33:3448-3454.
3. Xu B, Ma J, Huang Q, et al. Two doses of low-dose perioperative dexamethasone improve the clinical outcome after total knee arthroplasty: a randomized controlled study. *Knee Surg Sports Traumatol Arthrosc* 2018;26:1549-1556.
4. Backes JR, Bentley JC, Politi JR, et al. Dexamethasone reduces length of hospitalization and improves postoperative pain and nausea after total joint arthroplasty: a prospective, randomized controlled trial. *J Arthroplasty* 2013;28:11-17.
5. Yu Y, Lin H, Wu Z, et al. Perioperative combined administration of tranexamic acid and dexamethasone in total knee arthroplasty-benefit versus harm? *Medicine* 2019;98:e15852.
6. Wu Y, Lu X, Ma Y, et al. Perioperative multiple low dose dexamethasones improves postoperative clinical outcomes after total knee arthroplasty. *BMC Musculoskelet Disord* 2018;19:428.
7. Kim J-K, Ro DH, Lee H-J, et al. Efficacy of systemic steroid use given one day after total knee arthroplasty

for pain and nausea: a randomized controlled study. *J Arthroplasty* 2019;35:69-75.

8. Li D, Wang Q, Zhao X, et al. Comparison of Intravenous and Topical Dexamethasone for Total Knee Arthroplasty: A Randomized Double-Blinded Controlled Study of Effects on Dexamethasone Administration Route and Enhanced Recovery. *J Arthroplasty* 2021;36:1599-1606.

Reviewer 2:

Comments 1:

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Last, but not least, we want to express our sincere thanks to you for these valuable comments and look forward to receiving your reply. We all hope to provide valuable information for clinical practice.

Files attached

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oen sindrawati <oensindrawati@gmail.com>

Thank you for submitting your review of Manuscript ID OSJ-23-0078 for Journal of Orthopaedic Surgery

1 message

Journal of Orthopaedic Surgery <onbehalf@manuscriptcentral.com>

Wed, Apr 12, 2023 at 7:33 PM

Reply-To: sujitortho@yahoo.co.in

To: komang168@yahoo.com, oensindrawati@gmail.com

12-Apr-2023

Dear Dr. irianto:

Thank you for reviewing manuscript # OSJ-23-0078 entitled "Efficacy of combining intravenous and topical dexamethasone against postoperative pain and function recovery after total knee arthroplasty: a prospective, double-blind, randomized controlled trial" for Journal of Orthopaedic Surgery.

In recognition of your continued support, Journal of Orthopaedic Surgery and our publisher SAGE are pleased to offer you 60 days complimentary online access to all journals published by SAGE. Register at <http://journals.sagepub.com/page/help/reviewer-access> to activate access to content from all journals. To also benefit from a 25% discount on all SAGE books ordered online, go to the SAGE website (<http://www.sagepublications.com/>) and add the SAGE books that you would like to purchase to your shopping cart. When checking out, enter the Promotion Code GL10JR001 when prompted. This will automatically deduct 25% from your final bill.

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On behalf of the Editors of Journal of Orthopaedic Surgery, we appreciate the voluntary contribution that each reviewer gives to the Journal. We thank you for your participation in the online review process and hope that we may call upon you again to review future manuscripts.

Sincerely,
Dr. Sujit Tripathy
Associate Editor, Journal of Orthopaedic Surgery
sujitortho@yahoo.co.in, sujitortho@yahoo.co.in