

1 **Name of Journal:** *World Journal of Orthopedics*

2 **Manuscript Type:** ORIGINAL ARTICLE

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4 **Column:** Retrospective Study

5 **Title:** Accuracy of shoulder joint injections with ultrasound guidance - confirmed by
6 magnetic resonance arthrography -

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13 Thank you very much for reviewing our manuscript and offering valuable advice. The
14 comments and suggestions of the reviewers were very much appreciated and we
15 consider that we properly responded to the comments. We have listed the comments
16 below, followed by the manner in which we have addressed them. We are sure that our
17 manuscript has improved by your editorial help. I appreciate that our manuscript is
18 accepted for the publication in *World Journal of Orthopedic*.

19

20 **Reviewer #1's comment:**

21 *(1) Although this manuscript is very well written and it seems that the authors have devoted a
22 lot of work to the creation of this very interesting study,*

23 →**Author's response:**

24 We really appreciate your comment.

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27 **Reviewer #1's comment:**

28 *(2) there is no control group.*

29 →**Author's response:**

30 This study was conducted on patients with anterior shoulder instability in a clinical
31 setting. As we wrote in the text, MRA is a very important test to detect intra-articular
32 pathologies. A control group could not be established because of the potential
33 disadvantage to the patient if ultrasound guidance is not used. Therefore, we compared
34 the accuracy rate with that of previous reports about blind injections. We added the
35 comment about its limitation to the discussion as follows;

36

37 Line284-288:

38 “Second, this study has no control group with blind injections. MRA is an essential test
39 for patients with anterior shoulder instability to detect capsular and labral pathologies.
40 A control group could not be established because of the potential disadvantage to the
41 patients if ultrasound guidance is not used. ”

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44 **Reviewer #1’s comment:**

45 *(3) It is not clear from the description of the technique the exact location of the insertion of the*
46 *needle.*

47 →**Author’s response:**

48 Thank you for your comment. We agree with your suggestion and added the comment
49 in “injection technique” section as follows;

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51 Line179-186:

52 “In the out-of-plane technique, observing the needle tip at all times during injection is
53 difficult; however, the movement of the needle tip can be detected through the
54 movement of soft tissues. Furthermore, as long as the needle does not deviate from the
55 center of the ultrasound probe, the needle tip theoretically reaches the target in the
56 glenohumeral joint. When the needle tip reaches the joint, the drug can be smoothly
57 injected, and simultaneously, the flow of the fluid can be confirmed in the joint on the
58 ultrasound image (Fig. 3B and 3C).”

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Science editor's comment:

(1) The "Author Contributions" section is missing. Please provide the author contributions.

→Author's response:

Thank you for your comment. We added the "Author Contributions" section.

Line31-34:

Author contribution: Kuratani K performed the research, contributed to the analysis and wrote the paper; Tanaka M designed and performed the research and supervised the report; Hanai H supervised the statistical analysis; Hayashida K designed the research and supervised the report

Science editor's comment:

(2) The authors did not provide original pictures. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor.

→Author's response:

Thank you for your comment. All figures will be submitted in PowerPoint format.

Science editor's comment:

(3) The "Article Highlights" section is missing. Please add the "Article Highlights" section at the end of the main text.

→Author's response:

Thank you for your comment. Please find the "Article Highlights" section below:

Line303-330:

ARTICLE HIGHLIGHTS

88 ***Research background***

89 Intra-articular glenohumeral joint injections are essential procedures in a clinical setting
90 of shoulder surgery. In general, a fluoroscopy-guided shoulder injection has been
91 extensively used.

92

93 ***Research motivation***

94 At our institution, we typically perform ultrasound-guided shoulder injections for MRA.
95 The accuracy of ultrasound guided shoulder injection has not been reported.

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97 ***Research objectives***

98 To evaluate the accuracy of ultrasound guided shoulder injections with MRA images.

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100 ***Research methods***

101 We reviewed the shoulder MRA images of patients with anterior shoulder instability
102 and classified the intra-articular condition in three groups and calculated the injection
103 accuracy.

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105 ***Research results***

106 From the total of 179 injections, 163 (91.0%) were completely administered in the
107 glenohumeral joint. In addition, intra-articular injection with some leakage was
108 detected in 10 shoulders (5.6%).

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110 ***Research conclusions***

111 The ultrasound-guided shoulder injection was shown to be a very accurate procedure.

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113 ***Research perspectives***

114 Further, it is necessary to evaluate whether this technique is effective even for
115 inexperienced examiners.

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118 **Company editor-in-chief' comment:**

119 *Please authors are required to provide standard three-line tables,*

120 →**Author's response:**

121 Thank you for your comment. The table will be submitted in Word in the specified

122 format.