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PEER-REVIEW REPORT

Name of journal: World Journal of Orthopedics

Manuscript NO: 50870

Title: Pilot Study of a Novel Serum mRNA Gene Panel for Diagnosis of Acute Septic Arthritis

Reviewer's code: 02456959

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Full Professor, Professor

Reviewer's country: China

Author's country: United States

Reviewer chosen by: Jia-Ping Yan

Reviewer accepted review: 2019-08-20 13:03

Reviewer performed review: 2019-08-21 00:53

Review time: 11 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input checked="" type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	polishing	<input checked="" type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input checked="" type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

Blake J Schultz et al (Manuscript Number: 50870) describe and evaluate the “Serum mRNA Diagnostic for Septic Arthritis”. Their finding is interesting. Acute septic arthritis is an orthopedic emergency. Compared with conventional diagnostic methods, ‘Sepsis MetaScore’ (SMS) based on an mRNA signature has higher diagnostic accuracy. However, there are several weaknesses in this work, which should be corrected: 1. On the section of Results, Please delete the redundancy sentences when the tables or figures have clearly showed the same information. 2. Please give a high definition image. For example, Figure 1 (A, B, C, D, E, and F) must larger than 300 dpi. 3. On the section of Discussion, the main findings and its implications, limitations, and authors’ recommendations should be present more clearly and refining. 4. The Table, Figure, Reference, and special symbols must fit the journal's requirements or format.

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ No

BPG Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ No

PEER-REVIEW REPORT

Name of journal: World Journal of Orthopedics

Manuscript NO: 50870

Title: Pilot Study of a Novel Serum mRNA Gene Panel for Diagnosis of Acute Septic Arthritis

Reviewer's code: 00227375

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Doctor

Reviewer's country: Japan

Author's country: United States

Reviewer chosen by: Jia-Ping Yan

Reviewer accepted review: 2019-08-20 10:25

Reviewer performed review: 2019-08-25 07:04

Review time: 4 Days and 20 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input checked="" type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input checked="" type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input checked="" type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input checked="" type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

This is an interesting manuscript about the “Sepsis MetaScore (SMS)” for diagnosis of acute septic arthritis. SMS showed a high level of diagnostic accuracy in predicting septic joints compared to other diagnostic biomarker such as ESR, CRP, and WBC. In addition, SMS was the only significant predictor of infection status in multivariate analysis. This manuscript is nicely structured and well written. However, I have a few minor comments about this manuscript. Please consider the following comments. (Comment) 1. Page 2, Abstract, Results, line 1 Why is the total number 19 not 20? Sorry if I have got it wrong. 2. Page 2, Abstract, Results, lines 2-4 (AUROCs for SMS, ESR, CRP, and WBC are 0.86, 0.56, 0.59, and 0.58.) Page 9, Figure1 (AUROCs for SMS, ESR, CRP, and WBC are 0.87, 0.58, 0.6, and 0.59.) Is the one or the other correct?

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☒ No

BPG Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☒ No

PEER-REVIEW REPORT

Name of journal: World Journal of Orthopedics

Manuscript NO: 50870

Title: Pilot Study of a Novel Serum mRNA Gene Panel for Diagnosis of Acute Septic Arthritis

Reviewer's code: 04091933

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Associate Professor, Senior Researcher

Reviewer's country: Russia

Author's country: United States

Reviewer chosen by: Artificial Intelligence Technique

Reviewer accepted review: 2019-08-14 15:23

Reviewer performed review: 2019-08-25 11:50

Review time: 10 Days and 20 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	(High priority)	<input type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

The study is very relevant as there is no early diagnostic tool for septic arthritis now. However, in such cases, the therapeutic decision must be taken in a timely manner, and even urgently. The authors proposed a highly sensitive test (SMS) as a rule-out test for acute septic arthritis in native joints that is ideal for the clinical urgency. It is important that SMS may be useful in other inflammatory arthropathies such RA, and in patients with immunosuppression with falsely lowered inflammatory markers. I have no special comments or remarks on manuscript. The main limitations of the study were detailed by the authors. The manuscript is certainly recommended for publication; however, a minor revision is required. In my opinion, there are not enough latest references (2017–2019). There are only 2 links for 2017, 1 reference for 2018, and 1 – for 2019. It is advisable to add recent sources, ex.gr. PMID 30989408. Perhaps recent epidemiological studies should be added to emphasize the importance of the research topic, ex.gr. PMID 28809954, or PMID 28464432, PMID 30855548. In addition, there is a slight discrepancy between the values of area under the ROC curve (round-off error?) in the abstract and in the text ('Results' Section).

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

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- ☐ Plagiarism
- ☒ No

BPG Search:

- ☐ The same title
- ☐ Duplicate publication



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[] Plagiarism

[Y] No