



PEER-REVIEW REPORT

Name of journal: *World Journal of Orthopedics*

Manuscript NO: 74366

Title: Reducing bacterial adhesion to titanium surfaces using low intensity alternating electrical pulses

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 02699644

Position: Peer Reviewer

Academic degree: MD

Professional title: Professor

Reviewer's Country/Territory: New Zealand

Author's Country/Territory: Spain

Manuscript submission date: 2021-12-25

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-01-11 03:32

Reviewer performed review: 2022-01-21 03:01

Review time: 9 Days and 23 Hours

Scientific quality	<input checked="" type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No



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Peer-reviewer statements	Peer-Review: [<input checked="" type="checkbox"/>] Anonymous [<input type="checkbox"/>] Onymous Conflicts-of-Interest: [<input type="checkbox"/>] Yes [<input checked="" type="checkbox"/>] No
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SPECIFIC COMMENTS TO AUTHORS

This laboratory study looked at the influence of AC on adhesion of bacteria to a titanium model and concluded that AC may have a role in reducing biofilm formation and bacterial adhesion in implant infection. The approach was novel with satisfactory methodology. The results show better activity for S aureus compared to E coli. Additionally there was some electrocoagulation of the medium suggesting that in vivo application may cause cytotoxicity. The results are definitely worth publishing but my main concerns are: 1 The clinical application seems difficult. When and how would AC be applied to an implant, considering that bacterial adhesion probably occurs within 14 days of contamination and presumably attacking the first phase of bacterial adhesion would be the most important. the authors do comment on this aspect as a limitation but do they have any suggestions on how it could be clinically implemented? 2 The cytotoxicity of AC is also a major limitation. I would like to know from the authors how that could be investigated and what are the potential mechanisms to achieve this? Do they suggest external AC or some implantable mechanism? Although the English was satisfactory there were a few grammatical errors that need to be addressed.



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Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 03442364

Position: Peer Reviewer

Academic degree: MD, PhD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: Spain

Manuscript submission date: 2021-12-25

Reviewer chosen by: Qi-Gu Yao (Online Science Editor)

Reviewer accepted review: 2022-02-24 08:05

Reviewer performed review: 2022-02-24 08:12

Review time: 1 Hour

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No



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Peer-reviewer statements	Peer-Review: [<input checked="" type="checkbox"/>] Anonymous [<input type="checkbox"/>] Onymous Conflicts-of-Interest: [<input type="checkbox"/>] Yes [<input checked="" type="checkbox"/>] No
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SPECIFIC COMMENTS TO AUTHORS

This is an interesting and meaningful study, and I recommend accept.