



**PEER-REVIEW REPORT**

**Name of journal:** World Journal of Orthopedics

**Manuscript NO:** 42879

**Title:** Investigational Growth Factors Utilized in Animal Models of Spinal Fusion:  
Systematic Review

**Reviewer's code:** 03069301

**Reviewer's country:** Spain

**Science editor:** Ying Dou

**Date sent for review:** 2018-10-23

**Date reviewed:** 2018-11-03

**Review time:** 11 Days

| 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 polishing           | (High priority)                                    | <input checked="" type="checkbox"/> Anonymous             |
| <input type="checkbox"/> Grade C: Good            |  | <input type="checkbox"/> Accept                    | <input type="checkbox"/> Onymous                          |
| <input checked="" type="checkbox"/> Grade D: Fair | <input type="checkbox"/> Grade C: A great deal of language polishing | (General priority)                                 | Peer-reviewer's expertise on the topic of the manuscript: |
| <input type="checkbox"/> Grade E: Do not publish  | <input type="checkbox"/> Grade D: Rejection                          | <input type="checkbox"/> Minor revision            | <input checked="" type="checkbox"/> Advanced              |
|   |  | <input checked="" type="checkbox"/> Major revision | <input type="checkbox"/> General                          |
|   |  | <input type="checkbox"/> Rejection                 | <input type="checkbox"/> No expertise                     |
|   |  |  | Conflicts-of-Interest:                                    |
|   |  |  | <input type="checkbox"/> Yes                              |
|   |  |  | <input checked="" type="checkbox"/> No                    |

**SPECIFIC COMMENTS TO AUTHORS**

The authors present a systematic review on the factors used in animal models of spinal arthrodesis. The study is well designed but obviates studying the BMP-7 (OP-1). The BMP-7 has been much used in animals as well as in humans, and although it is currently



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temporarily suspended its commercialization, its inclusion in a paper on animal experimentation is necessary. The clinical use of other proteins such as BMP-2 has also been subjected to other clinical problems.

#### **INITIAL REVIEW OF THE MANUSCRIPT**

##### ***Google Search:***

- The same title
- Duplicate publication
- Plagiarism
- No

##### ***BPG Search:***

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**Manuscript NO:** 42879

**Title:** Investigational Growth Factors Utilized in Animal Models of Spinal Fusion:  
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**Reviewer’s code:** 03708308

**Reviewer’s country:** Italy

**Science editor:** Ying Dou

**Date sent for review:** 2018-10-23

**Date reviewed:** 2018-11-03

**Review time:** 11 Days

| 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 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 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**

The manuscript is an interesting systematic review of the all non-human, preclinical animal models of spinal fusion reported in the literature and the growth factors role growth factors in spinal fusion. After a 4806 articles research on the four principles



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science databases (PubMed, Embase, Cochrane Library, and Web of Science), only 26 articles were considered eligible by the authors. Main growth factors investigated were: AB204; angiopoietin; calcitonin; erythropoietin; basic fibroblast growth factor; growth differentiation factor, combined insulinlike growth factor 1 + transforming growth factor beta; insulin; NELL-1; noggin; P-15; peptide B2A; and secreted phosphoprotein 24. The authors concluded that many of the investigated growth factors could inform the development of efficacious, clinically translatable materials for spinal fusion. Comment 1: The authors should implement the discussion, add their opinion on the future prospective of the main growth factors, which of the should be further investigated and their possible clinical use.

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**Manuscript NO:** 42879

**Title:** Investigational Growth Factors Utilized in Animal Models of Spinal Fusion:  
Systematic Review

**Reviewer’s code:** 03069318

**Reviewer’s country:** United States

**Science editor:** Ying Dou

**Date sent for review:** 2018-10-23

**Date reviewed:** 2018-11-09

**Review time:** 16 Days

| 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:                      |
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|  |   | <input type="checkbox"/> Rejection         | <input type="checkbox"/> General              |
|  |   |  | <input type="checkbox"/> No expertise         |
|  |   |  | Conflicts-of-Interest:                        |
|  |   |  | <input type="checkbox"/> Yes                  |
|  |   |  | <input checked="" type="checkbox"/> No        |

**SPECIFIC COMMENTS TO AUTHORS**

Abstract In the results, preferably include a range in fusion rates Introduction Please do not use trademarks in the introduction, use the name of the factor itself. Methods Well described Results Be consistent in reporting data. For example, state % of fusion



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rate for calcitonin. Also for BFGF report specific values. Similarly for IGF/TGFb Were there any complications reported in these animal studies? Discussion Well presented. As described, the applicability of these factors to clinical practice is not only related to translation of the findings to humans, but also potential complications.

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