Reviewer’s report

Title: Biomechanical comparison of different combinations of hook and screw in one spine motion unit - an experiment in porcine model

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Reviewer: CAGLAR YILGOR

Reviewer’s report:

I had the opportunity to review the manuscript entitled 'Biomechanical comparison of different combinations of hook and screw in one spine motion unit - an experiment in porcine model'.

In general the paper needs several radical improvements.

Major Compulsory Revisions:

1) The background section includes information about the 'history' of the devices used for the treatment of scoliosis which is irrelevant to the topic. This section should be re-written to include background information regarding pedicle screws and hooks and their biomechanics.

2) The results section should be given in more detail.

3) The articles such as 'Pullout strength of pedicle screws versus pedicle and laminar hooks in the thoracic spine' by Liljenqvist et.al. in Acta Orthopædica Belgica, Vol. 67 - 2 - 2001 and 'A Biomechanical Assessment of Infra-Laminar Hooks as an Alternative to Supra-Laminar Hooks in Thoracolumbar Fixation' by Murakami et. al. in the SPINE journal, Volume 31, Number 9, pp 967–97, 2006 are not referred in the manuscript although they are directly relevant to the topic discussed in the manuscript.

4) The choice between a pedicle screw and a hook is not solely based on its pullout strength. The implants ability of deformity correction, restoration of sagittal balance, derotation, etc., and effects on adjacent segments should all be considered. However, clinical correlation was not included in the manuscript. Thus, in the conclusion section the authors tried to make too much out of it. I think the authors should stick to the results and explain them but do not extrapolate too far.

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests