Reviewer’s report

Title: Cotrel-Dubousset instrumentation for the correction of adolescent idiopathic scoliosis. Long-term results with an unexpected high revision rate.

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Reviewer: Behrooz Akbarnia

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Review of the paper in Scoliosis

Cotrel-Dubousset instrumentation for the correction of adolescent idiopathic scoliosis; Long-term results with an unexpected high revision rate.

I enjoyed reviewing this manuscript. I have always felt that we need more long term follow-ups to have a better understanding of the results of treatment methods we use. I congratulate the authors for this undertaking.

My general comments are:

1. Although there is no question that this study is a long term follow-up, I am not clear what the actual clinical and radiographic follow-up was. The medical files were studied at 14.3 years. In the next sentence the average follow-up was noted was 57.4 months. Does this mean that the patients were seen in some points and did not have radiographs or they were lost? I suggest that the authors clarify this by indicating when the patients were seen and when the radiographs were taken so the reader understands what the true nature of the follow-up is.

2. I understand that the preoperative SRS 24 may not be available for the group which would have provided an excellent comparison. However, the low rate of follow-up SRS 24 data reduces the quality of the study and raises concerns of how the other 65% are doing long term. Any attempt to raise this follow-up will improve the quality of the study.

3. The rate of revision is interesting since it is a high rate and almost all occurred within the first 4 years. Other studies with comparable follow-up (over 4 years) did not report such a high revision rate in the first few years of follow-up. I wonder if the authors have any explanation.

4. The same concern is for infection rate of 25% which I believe is one of the highest reported for AIS patients. Although in conclusion they state that the reason for high rate of infection is unclear, this high rate of infection combined with other implant issues may need more explanation in discussion.

5. Conclusion should have a take home message from the data they presented. What the reader is getting is that there is a high rate of revisions and implant removal (more than any previous reports) but the reason will remain unclear and reader may not get any information what to expect and what they should do differently or if any other implant system would show the same results if studied
long term.

Minor issues:
Please check the references again. There were few references that did not match the numbering such as Cook (19) which was actually (20)
Also the review of the literature can be shorten for better reading.
In summary, I feel that the paper provide a long term follow-up in a consecutive series of AIS patients treated with CD instrumentation and should be published with above suggested revisions. Thank you for allowing me to review this manuscript.
Behrooz A. Akbarnia

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

Declaration of competing interests:
No conflict