



Letter to the Editor

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Commentary on “Impact of Nonlordotic Sagittal Alignment on Short-term Outcomes of Cervical Disc Replacement”

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To the editor,

With great interest, we read the article titled “Impact of Nonlordotic Sagittal Alignment on Short-term Outcomes of Cervical Disc Replacement” written by Jung, et al. in *Neurospine*.¹ The authors conducted a retrospective study to evaluate outcomes of cervical disc replacement (CDR) in patients with nonlordotic alignment. The conclusion is that CDR has the potential to generate and maintain lordosis and improve patient-reported outcome measures (PROMs) in the short term, and can be an effective treatment option for patients with nonlordotic alignment. We highly appreciate their contribution to this topic; however, some issues in the article may confuse the readers, which needs further clarification.

First, cervical kyphosis can be divided into reversible kyphosis and irreversible kyphosis. For many patients with reversible kyphosis, the neck pain was so torturous that they had to hold the relatively kyphotic position to relax the posterior neck muscle, thus leading to pre-operative kyphosis. But after pain relief, the neck muscle spasm was immediately and remarkably relieved. Then, the cervical spine automatically returned to a relatively lordotic position; whereas the irreversible kyphosis was frequently associated with serious cervical degeneration or congenital bone malformation, cervical kyphosis in these patients may not improve after pain relief.² Therefore, the authors should measure the curvature of the cervical spine after pain relief. We think that the real purpose of this study was to examine the short-term outcomes of CDR in patients with irreversible kyphosis who had no improvement in cervical alignment after pain relief. PROMs recommend to be collected for analysis after pain relief, immediately after surgery, and postoperative follow-up <6 months, ≥6 months.

Second, the baseline characteristics may be incomparable and confounding factors such as the professional types, the presence or absence of adjacent segment degeneration,³ the occipital orientation⁴ and whether to undergo traction treatment should also be included. The consistency of patient data between groups can be assessed more comprehensively, so that subsequent studies can be more comparable.

Third, the method used by the authors to measure cervical curvature may be controversial, the C2–7 Cobb method and local surgical segments method were deemed to affect the definition of cervical alignment remarkably. These 2 methods obtained all their information locally at the endpoints but inferred a conclusion about the entire cervical region.



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Hu et al.² mentioned that no existing study proposed an exact degree range concerning the definition of straight cervical spine, as opposed to the modified Toyama method that could determine the 3 types of cervical alignment quantitatively. Meanwhile, the modified Toyama method was regarded as a reliable and accurate method for the classification of cervical alignment.⁵

In conclusion, we believe that future studies should give more details concerning other confounding factors and try to control baseline comparable. A reasonable cervical alignment measurement method should be used and those appropriate target population should be included in future study subjects, so as to draw a conclusion with more credibility. Once again, we appreciate the authors for their great work and hope that the readers can benefit from it.

CONFLICT OF INTEREST

The authors have nothing to disclose.

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