Reviewer's report

Title: Modular stem in total hip arthroplasty for patients with trochanter valgus deformity:
surgical technique and case series

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Reviewer: Youn-Soo Park

Reviewer's report:

Severe trochanteric valgus deformity is a challenging situation for THA. In this study, Kong et al. retrospectively reviewed 12 cases of THA with S-ROM modular stem using reverse sleeve technique for degenerative hips with trochanteric valgus deformity. The authors reported that the implant survivorship with an end point of revision for any reason was 100% at 6 years. There was no aseptic stem loosening, and Harris hip score improved from 34.3 preoperatively to 84.1 postoperatively.

Although the reverse sleeve technique has been discussed in several conferences and review articles, no clinical study had specifically focused on this technique. The main limitation of this paper appears to be the small number of cases. Nevertheless, this article is worth publishing, as the trochanteric valgus deformity of G/L ratio greater than 1.50 is extremely rare in THA. Overall, it is a well performed study. However, there are some minor issues and concerns that need to be addressed before publication.

1. Femoral stems with proximal modular sleeve design are currently not popular in ordinary primary THAs. Therefore, simply expressing "reverse sleeve in THA" in the title can be somewhat vague and confusing. It is also worth mentioning that these are severe cases of trochanteric valgus deformity, as there is no need for this technique in mild cases. I recommend modifying the title to "The reverse sleeve technique in total hip arthroplasty with cementless modular stem for patients with severe trochanter valgus deformity: surgical technique and case series" or similar expressions.

2. Page 5, lines 7-9: It is important to describe the total number of cases with the same technique during the study period, not just mentioning, "the patients who hadn't have regular follow-up and complete information were excluded." Please address the minimum follow-up duration as well as the number of cases that could not be evaluated in the current study.
3. Although the authors found that the actual indication of the reverse sleeve technique was G/L ratio greater than 1.50 retrospectively, please state clearly what was the "preoperative indication" of applying this technique. For example, "The reverse sleeve technique was considered in patients with severe trochanteric valgus deformity, where the modular stem could not be inserted by ordinary technique without performing varus osteotomy simultaneously."

4. S-ROM modular stem has the polished central stem and the porous- or HA-coated sleeve. Osseointegration in the proximal sleeve is critical for long-term stability of the implant. It would be informative to describe the mode of fixation of the proximal sleeve as, "bone ingrown, fibrous stable, or unstable" as suggested by Engh et al.

For example, "Sixty-two (95.3%) hips demonstrated stable bone ingrowth. Two stems were found to have stable fibrous ingrowth radiographically, and no stems had unstable status. Spot welding around the inferior border of the metaphyseal sleeve was observed in fifty-four hips (84.4%)."


5. One of the limitations of the current study is the heterogeneity of the study population including various primary etiologies. It would be appropriate to state this concern in the limitation section.

6. Page 4, line 5: Consider rewriting "high crosslinked polyethylene". "Highly cross-linked polyethylene" is a more generally accepted expression.

7. There are no descriptions on the parentheses in Tables 1 and 2, despite expressions in the statistical analysis section of the main text. Please give exact information on the bottom of the tables.

8. More detailed descriptions are required for Figure 1. Although the surgical technique was described in the main text, please restate it briefly in the figure legends as well.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
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Yes

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