Asian Spine Journal
Letter to the Editor
Asian Spine J 2017;11(5):843-844 • https://doi.org/10.4184/asj.2017.11.5.843

Long-term Outcomes of *In Situ* Fusion for Treating Dysplastic Spondylolisthesis

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With great interest, we read the article by Inage et al. [1] titled "Long-term outcomes of *in situ* fusion for treating dysplastic spondylolisthesis." This article discusses the retrospectively analyzed data of 12 of 28 patients who underwent *in situ* fusion for dysplastic spondylolisthesis at a single center, with a mean 20-year follow-up duration. It is a laudable effort by the authors to have performed a long-term clinical and radiological outcome analysis of this rare condition, which still has unclear management guidelines. It is a well-written article, and the authors' efforts to comprehensively discuss the limitations of the study are commendable. However, we would like for some of our concerns and queries to be addressed in this issue.

1. The radiological parameters discussed primarily included the lumbosacral angle and lumbar lordosis. How many of the patients had high-grade listhesis based on the Meyerding Classification [2]? Is it possible for the authors to share the grades of slip pre- and postoperatively? Grade 4 and 5 slips also carry a significant shear force across the fused segments, which can potentially delay fusion and lead to failure. Did the authors differentiate between the high- and low-grade slips in terms of the surgical technique (including the achievement of partial reduction and consideration for the use of additional lumbar/pelvic fixations to counter the shear forces) as well as postoperative bracing?
2. Did the authors observe any adjacent segment disease during the long-term follow-up? In view of the persistent focal kyphotic alignment with enhanced compensatory proximal lordosis, one may expect some degree of biomechanical stress at the adjacent levels. Did the authors also consider this a concern?
3. The provided radiographs display a relatively maintained sacral slope and pelvic version. How many patients in this series had significant pelvic retroversion (altered sacral slope or pelvic tilt)? This may be an important parameter to consider prior to surgical planning. Pelvic and global spinal imbalance (if whole spine radiographs are available) can cause adverse clinical outcomes if not addressed [3].
4. Would the authors recommend *in situ* fusion for all patients with dysplastic listhesis or is this procedure advisable for any specific subset only?
5. How did the patients, particularly those with severe pelvic retroversion and sagittal imbalance, feel cosmetically after the *in situ* fusion?
6. What was the mean time to achieve fusion with this technique? Was a delay noted in any patient with this technique?

Received May 5, 2017; Accepted May 8, 2017
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Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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