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Letter to the Editor

Reply Letter to "Cervical Facet Joint Degeneration"

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To the editor,

We thank Dr. Goel for his insightful comments[1] on our recent article.[2] The comments are very helpful to readers when considering the value of diagnosing facet joint degeneration. He stated that all facet degenerations are secondary to vertical spinal instability that originates from the weakness of back extensor muscles.[3] Our study showed that facet degeneration is not related to cervical spondylolisthesis in patients with rapid progression of myelopathy,[2] which supports the arguments he mentioned, but there are a few disagreements and misunderstandings, which we discuss below.

He emphasized that cervical stabilization is essential treatment for facet degeneration related to muscle weakness. Although his treatment strategy of stabilization first is reasonable, in our daily clinical practice we feel that it is also good to provide a surgical approach without spinal stabilization. Actually, 65.7% of patients in the recent article[2] subsequently underwent cervical posterior decompression surgery. In Japan, a super-aging society, the number of healthy elderly people is increasing. With the recent development of general anesthesia, there are increasing opportunities to perform surgery not only on patients in their 80s but also in their 90s.[4] Indeed, the oldest patient in our case series was aged 93 years.[2] Spinal fusion could remove dynamic pathological factors, and the short-term clinical outcomes are great. But very long-term effects cannot be predicted. Aging generally causes restricted range of motion of the spinal column.[5] In the spine, which is composed of multiple mobile joints, restricted range of motion means reduced ability to adjust. Therefore, if a history of previous fixation were added to the situation, it can easily lead to spinal malalignment due to further loss of adjustment reserve. This is a real issue that cannot be overlooked, especially in a super-aged society. On the other hand, because our study is only an investigation of the prevalence of cervical facet degeneration, the results cannot suggest any treatment approach or strategy. Further follow-up studies over a very long term on this controversial issue are warranted.

He also noted that it is unfortunate that out study ignored the evaluation of atlantoaxial facets, which have the highest potential for degeneration.[6] The facet joints of the atlantoaxial and subaxial levels differ greatly in the orientation of joint surfaces and direction of loading, and it is necessary to consider them to be different in pathophysiology. Thus, the atlantoaxial facet joints were intentionally excluded from this evaluation. This joint is also a site of degenerative change; we consider it a subject for future study.

In addition, we would like to correct his understanding of the rapid progression group in

our study as there seems to be some misunderstanding. He describes rapid progression as being caused by spinal instability associated with acute muscle weakness that occurs in radiculopathy. In our study, we excluded patients that clearly had radiculopathy in order to elucidate the pathophysiology of cervical myelopathy. Therefore, we emphasize that this group did not have radiculopathy; instead, they had rapidly progressive myelopathy.

We also included patients with ossification of posterior longitudinal ligament (OPLL) in our study. Indeed, OPLL is a unique pathological condition. However, since we expected stability and bony fusion in the adjacent intervertebral space to affect facet joint degeneration, we considered it unnecessary to exclude OPLL in our evaluation of facet joints. Since more detailed differences need to be investigated, this is also an issue for future study.

Overall, his hypothesis is highly compatible with our results. Since we are far from a complete understanding of the pathological significance and clinical implications of facet joint degeneration, it is indisputable that this is an area that warrants further study and discussion.

Conflict of Interest: The authors have nothing to disclose.

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