Pelvic Incidence as a Determinant for Chronic Low Back Pain: Few Comments

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Dear Editor,

Ashraf and his colleagues should be praised for bringing much needed attention to the debate about the relationship between the functional status of patients with chronic lower back pain, and lumbar lordosis [1]. Although their study did not result any significant correlation between the score of functional disability and lumbar lordosis, it did point out the potential role of pelvic incidence (PI) as a predictive factor for chronic lower back pain.

Chronic lower back pain is related to the degeneration of the lumbar back muscle, mostly in middle-aged women, and is considered to be one of the most common spinal deformities in many Asian countries [2]. Research has also shown that Spinopelvic parameters are also possible factors related to the degeneration of back muscles. Thus, many studies about the degeneration of the lumbar back muscle are key in order to find clinically significant results.

The key of spinopelvic parameters for sagittal balance is PI, a constant anatomical value, independent of pelvic positioning. PI increases while lumbar lordosis is developing, but it does not change after adolescence. PI defines the extent of pelvic tilt (PT) and sacral slope (SS) ($PI=PT+SS$), and PT and SS vary based on pelvic positioning. Abnormal spinopelvic parameters and high

PI also attribute to multiple spine conditions, including junctional kyphosis, spondylolysis, adjacent segment degeneration, and degenerative spondylolisthesis [3,4]. In the study of Lee et al. [5] PI played an important role for the surgical outcome of degenerative flat back. In another study by Gottfried et al. [6], patients with fixed sagittal imbalance had a large lumbar lordosis and an elevated PI as the pelvic retroversion progressed after spinal fusion surgery. In addition, a recent retrospective case series study showed the increasing tendency of PI during the progression of back muscle degeneration [7].

As discussed from above, PI plays a potential role as a predictive factor for chronic lower back pain. In this regard, individual patient data meta-analysis and randomized trials should focus more on this area to help find a way to decrease chronic lower back pain.

Conflict of Interest

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

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