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Editorial

The Important Role of Paraspinal Muscle Quality for Maintaining Sagittal Balance While Walking: Commentary on "Correlation of Paraspinal Muscle Mass With Decompensation of Sagittal Adult Spinal Deformity After Setting of Fatigue Post 10-Minute Walk"

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See the article "Correlation of Paraspinal Muscle Mass With Decompensation of Sagittal Adult Spinal Deformity After Setting of Fatigue Post 10-Minute Walk" via https://doi.org/10.14245/ns.2142510.255.

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In this paper authored by Bae et al.,[1] the authors reported important findings regarding the role of paraspinal muscle quality in maintaining sagittal balance. Specifically, they found differences in sagittal spinal alignment after a 10-minute walk in compensated versus uncompensated adult spinal deformities after the onset of fatigue. This article will be followed by a project to determine the cause for this finding and the differences in muscle quality and quantity between compensated and decompensated groups.

As all we know, balance is dynamic, whereas malalignment is static. Thus, patients with malalignment could have a balanced erect posture using various compensatory mechanisms, which is why we referred to this group as "compensated sagittal imbalanced." However, maintaining this erect posture using intra- and extracompensatory mechanisms requires energy consumption, which is dependent on the muscles around the lower extremities and vertebrae in the thoracolumbar and lumbosacral areas.[2] The relationship between the paraspinal muscles and sagittal spinal malalignment has been associated with sarcopenia, which refers to degenerative changes in the muscle and is regarded as a disease that decreases patients' quality of life and precipitates or aggravates their spinal problems.[3]

Yagi et al.[4] also reported that the paravertebral muscle and psoas play an important role in the maintenance of global spinal alignment in patients with degenerative lumbar scoliosis. According to their results, a moderate correlation was obtained between the multifidus cross-sectional area and global spinal alignment, as well as spinopelvic alignment. Kim et al.[5] published similar results, finding that sarcopenia and back muscle degeneration were risk factors for sagittal imbalance in patients with degenerative adult spinal deformity.

The original finding of this study is that the researchers found worse changes in spinal alignment and balance after a 10-minute walk in the compensated sagittal deformity group. Tho-

racic lordotic compensation using the paravertebral muscles at T12 is a very important factor for maintaining a balanced erect posture, as shown by their results (decreased thoracic kyphosis was correlated with an increased cross-sectional area of the paravertebral muscles at T12).[6-8] Finally, the authors should embark upon a new project to substantiate their message that patients with compensated sagittal deformity will benefit significantly more from strength-building exercises.

CONFLICT OF INTEREST

The author has nothing to disclose.

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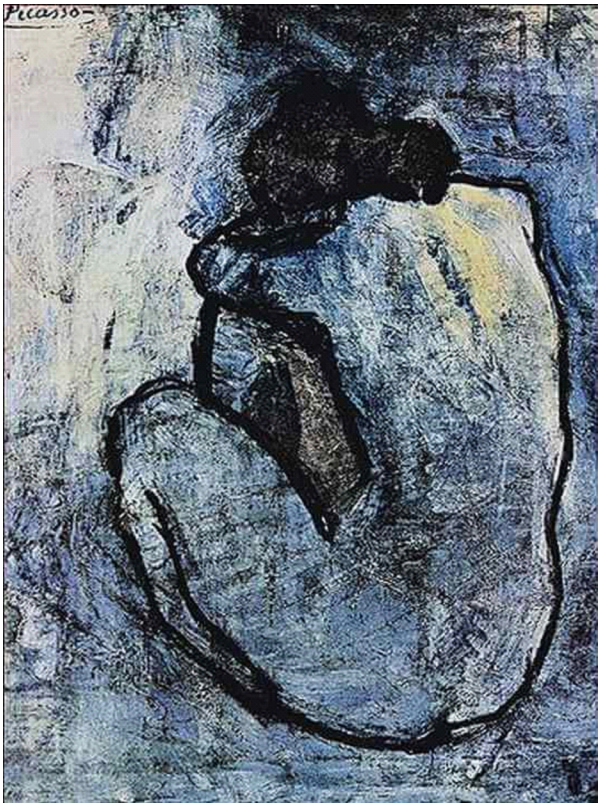

Title: Blue nude
Artist: Pablo Picasso
Year: 1902