

Kyphosing osteotomy of the cervical spine to improve kyphotic general sagittal balance. Case presentation

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Introduction: Symptomatic loss of general sagittal balance can usually be managed through an osteotomy and multilevel fusion in the thoracic or lumbar spine. In this case, a fixed cervical hyperlordosis lead to compensatory kyphosis in the thoracolumbar junction (see Figure 1). A kyphosing osteotomy of the structural cervical curve triggered a lordotic realignment in the thoracolumbar junction re-establishing a normal sagittal profile.

Methods: We present a case of a 24 y.o. male with symptomatic loss of sagittal profile due apparently to thoracolumbar kyphosis, leading to line of sight impairment. Although the clinical and radiological presentation suggested that the kyphotic thoracolumbal junction as the cause for the line of sight difficulties, a more thorough evaluation showed dysphagia, breathing difficulties and a fixed cervical hyperlordosis within an atypical Klippel-Feil syndrome. On the other hand, the thoracolumbal junction showed normal mobility.

Results: We performed a kyphosing osteotomy in the cervical spine through a combined approach: dorsal release of the subaxial spine, ventral discectomy, uncoforaminectomy, compression and plate fixation at C5-C7, then dorsal distraction and fusion C2-T3. The cervical lordosis measured between C2 and C7 distal endplates decreased from 55 to 11 degrees. This produced immediately a lordotic realignment of the mobile secondary curve in the thoracolumbal junction and complete re-establishment of normal sagittal profile and line of sight. Both dysphagia and breathing difficulties subjectively subsided in the postoperative period. The kyphosis in the thoracolumbar junction was decreased by 44 degrees.

Conclusion: An assessment of the entire spinal alignment and curvature mobility is needed to address a kyphotic deformity. We should resist the initial temptation to correct a kyphosis in thoracolumbar junction if there is doubt that this might be a compensatory curve.

Figure1. Pre- and postop x-rays

Fig. 1

