QUANTIFICATION OF THE EFFECTS OF POSTURAL HYPERKYPHOSIS ON POSTURAL STABILITY AND SPINAL PROPRIOCEPTION

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Introduction
Postural hyperkyphosis is a common spinal deformity in young peoples and proprioception deficit is suggested as an etiologic factor of this deformity. Our objective was studying the various aspects of proprioception in these patients compared with healthy matched subjects.

Relevance
This study is about detecting proprioception defects in postural hyperkyphosis

Methods & materials
the experimental case-control study was conducted in two groups of young kyphotic patients (n=30) and normal subjects (n=20). Sensory and motor balance strategies; static and dynamic postural stability and spinal segmental joint position sense in neutral, flexed and extended positions were measured and compared between the two groups.

Analysis
Using the Spss (version 11.5), ANOVA and kruscal-walis tests were used for comparing the parametric and nonparametric data between the kyphotic and healthy subjects.

Results
The kyphotic subjects had lower postural stability in static and dynamic conditions and their sensory strategies were also different. Spinal joint position sense was even better than healthy subjects in extended position.

Conclusion
Our finding highlights the various aspects of this deformity and shows that there is not any local segmental defect in spinal joint position sense but there are disturbances in integration of proprioception and in sensory interaction which may result in postural instability especially in medio-lateral direction.

Implications
Based on our findings we should pay more attention to evaluation and management of disturbed proprioception integration in kyphotic patients.

Key words:
spinal proprioception, postural stability, postural hyperkyphosis.