Cerebellar function and hypermobility in patients with idiopathic scoliosis

Alena Kobesova¹, Lenka Drdakova¹, Ross Andel²,³, Pavel Kolar¹

¹Department of Rehabilitation and Sports Medicine, Second Faculty of Medicine, Charles University, University Hospital Motol, Prague, Czech Republic, ²School of Aging Studies, University of South Florida, Tampa, FL, USA, ³International Clinical Research Center, St Anne’s University Hospital Brno, Brno, Czech Republic

Objectives: To determine if individuals with adolescent idiopathic scoliosis (AIS) present with significant cerebellar dysfunction and hypermobility when compared with healthy controls.

Methods: International Cooperative Ataxia Rating Scale (ICARS), pendulum reflexes, and 10 hypermobility tests according to Janda were assessed in 11 subjects with radiologically confirmed structural idiopathic scoliosis and in 11 individuals without scoliosis.

Results: Idiopathic scoliosis group scored significantly worse in gait and posture ICARS subscale (P = 0.014) and in total ICARS (P = 0.021). There was no significant difference in pendulum reflexes between the groups. Comparing with the healthy controls, the AIS group presented with significant hypermobility in head rotation (P = 0.038) and forward bend tests (P = 0.041). Total evaluation of all 10 hypermobility tests approached statistical significance (P = 0.051) with the AIS group, demonstrating greater hypermobility.

Conclusions: Signs of cerebellar dysfunction and hypermobility were identified in subjects with idiopathic scoliosis, which may be an important aspect in rehabilitation.

Full text at:

http://www.ingentaconnect.com/content/maney/imm/2013/00000035/00000003/art00003