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Orthoptic Assessment in Idiopathic Scoliosis: A Study of 15 Cases

Topic: Disability Studies

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BACKGROUND

Idiopathic scoliosis, a common three-dimensional spinal deformity in adolescents, has an unclear etiology, but recent research highlights the potential role of sensorimotor integration and postural control in its development. Oculomotor function, essential for balance and spatial orientation, has emerged as a key area of interest. Abnormalities in eye movements, such as saccades, smooth pursuits, and vergence, may disrupt postural stability and contribute to spinal misalignment. Despite this, the relationship between oculomotor disorders and scoliosis remains poorly understood.

This study explores the potential link between oculomotor disorders and scoliosis by analyzing a series of 15 clinical cases. The aim is to evaluate the correlation between oculomotor abnormalities in adolescents with scoliosis and to examine the impact of these disorders on the progression of scoliosis. Additionally, this research seeks to determine whether oculomotor deficits could serve as early markers to predict the worsening of scoliosis, thereby opening avenues for targeted preventive or therapeutic interventions.

METHODS

A retrospective analysis was conducted in the Physical Medicine and Functional Rehabilitation (PMR) department in Agadir on 15 patients with idiopathic scoliosis. These patients were initially assessed in PMR, followed by an orthoptic evaluation to screen for oculomotor disorders. The tests included the assessment of saccades, smooth pursuits, and vergence movements. Additional clinical data, such as the Cobb angle and patient age, were also collected to contextualize the results.

RESULTS

Sixty five percent of the patients exhibited significant oculomotor disorders, particularly dysfunctions in saccades and smooth pursuits. Patients with severe disorders had more pronounced scoliosis and an increased risk of progression. A positive correlation was observed between the severity of oculomotor abnormalities and the worsening of spinal curvature, suggesting a potential link between these two factors.

CONCLUSION

Oculomotor disorders may be associated with scoliosis, indicating that abnormalities in visuo-motor coordination could play a role in the pathogenesis of idiopathic scoliosis. These findings raise questions about the integration of systematic orthoptic assessments in the follow-up of scoliotic patients.

Statement of Disclosures

None

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