Scoliosis

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Oral presentation

Prediction of the scoliotic deformity correction in brace

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Background

Predicting the amount of scoliosis correction provided by a brace has been routinely done using radiographs. This method is not desirable, however because of the risk of malignancy due to repeated radiation exposure.

A diagnostic device called the "Spinal Mouse" has been widely used as a measurement tool in patients with scoliosis. This diagnostic method may also be useful for the prediction of scoliosis correction in a brace.

Objective

To study the correlation between spinal position measured with the "Spinal Mouse" and spinal position measured radiographically in the brace.

Materials and methods

Forth three scoliosis patients (12 males, 31 females) were enrolled in this study. Mean age was 10.3 years (range 6-15). Mean Radiographic Cobb angle before treatment was 37.2°. All the patients were investigated before bracing with "Spinal Mouse" in convex side bending position. After three months of bracing we assessed the radiographic Cobb angle and defined a correlation between the spinal correction in the brace and the results of the "Spinal Mouse" test.

Outcome

The mean deformity angle for the "Spinal Mouse" measurement was 17.5°. The mean Cobb angle after bracing was 15°. The correlation coefficient between these data was 0.68.

Conclusion

The "Spinal Mouse" device allows the clinician to perform non-invasive spinal mobility evaluation and may be used as the method for prediction of the scoliotic deformity correction during brace treatment.