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Does quality of exercises affect results in adolescent idiopathic scoliosis treatment to avoid braces? SEAS.02 results at two years

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Objective

After documenting the short term higher efficacy of SEAS.02 (Scientific Exercises Approach to Scoliosis, version 2002) versus classical physiotherapy [1], with this study we aim at verifying it in a longer term.

Study design

The design was a prospective controlled study of AIS patients who were prescribed exercises only, to avoid progression to brace treatment. All patients were enrolled consecutively. These results report on the second year of radiological follow-up. We had three groups: (1) SEAS exercises according to the SEAS.02 protocol (n = 20); (2) CONT, classical physiotherapy (n = 29); (3) MIX, patients who changed protocol during treatment (n = 8). Mean age was 12.7 ± 2.2 years, mean Cobb angle was 15.3 ± 5.4 degrees, and Bunnell angle of trunk rotation (ATR) [2] was 8.9 ± 2.8 degrees. There were no differences among the groups, using t-test for uncoupled data, Mann-Whitney, Fisher's Exact and chi-square with $\alpha = 0.05$.

Results

The difference in the number of braced patients was statistically significant: 10% in SEAS vs. 27.6% in CONT and 25% in MIX. During the observation period, only three patients have been discharged and were considered as success of treatment: 7% in CONT, 5% in SEAS, and 12% in CONT. Overall, SEAS had better results than both CONT and MIX.

Conclusion

Not all exercises for scoliosis have the same efficacy. This study reveals again the efficacy of SEAS.02 when compared to classical physical therapy. In an age at risk, the group with the qualitatively better treatment (SEAS) has demonstrated an improvement of median values. The less effective treatment, moreover, has allowed a higher stabilization if compared to natural history. In our view, the most important difference is in terms of bracing, because when scoliosis is of low degree, the aim of treatment is mainly to avoid more aggressive treatments with higher impact on quality of life of patients.

References

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