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SpineCor, exercise and SPoRT rigid brace: what is the best for Adolescent Idiopathic Scoliosis? Short term results from 2 retrospective studies.

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Abstract

INTRODUCTION: SpineCor is a dynamic brace that showed good results in scoliosis treatment. But data suggest that its efficacy is reduced as curves magnitude increase, and no comparisons exist versus exercise alone. The objective of this double study is to compare the short term results of the SpineCor versus SEAS exercises and versus rigid SpO₂RT brace for AIS.

METHODS: Study design: 2 retrospective controlled studies. Population 1: 56 consecutive AIS patients (39 female; age 13±1, Cobb 21±4°; ATR 11±4°): 28 patients (19 females; age 13±1; TRACE 6; Cobb angle 22±4°; ATR 12±4°, Risser 0-3) treated by SpineCor 20/24 hours; 28 patients (20 females; age 13±1; TRACE 5; Cobb angle 20±4°; ATR 9±3°, Risser 0-3) treated by SEAS exercises. Population 2: 103 consecutive AIS patients from our prospective database (85 females; age 13±1, Cobb 24±5°; ATR 8±4°): 29 patients (19 females; age 13±1; TRACE 6; Cobb angle 22±5°; ATR 9±3°, Risser 0-3) treated by SpineCor 20/24 hours per day; 74 patients (66 females; age 13±1; TRACE 5; Cobb angle 25±4°; ATR 8±4°, Risser 0-3) treated by SPo₂RT Brace 18 to 23 hours per day. The short term results of treatment, both clinical and radiographic, were evaluated after 18 months. Outcome measures: N° of rigid brace prescribed, TRACE, Cobb angle (changes > ±5), ATR (changes > ±2).

RESULTS: Study 1: the N° of patients prescribed with a rigid brace was not significantly different in the 2 groups. TRACE was stable for SEAS while decreased for SpineCor ($p < 0.05$). Considering the number of patients changed > ±5° Cobb in the SEAS Group we found 39.3% improved and 14.3% worsened vs 25% and 21.4% in SpineCor (NS); no differences for ATR. Study 2: Both the treatment showed to be effective in improving the TRACE. Considering the other parameters, the SPo₂RT brace seems to be slightly more effective than the SpineCor both for the Cobb angle and the ATR.

CONCLUSION: Short term results showed the SpineCor's efficacy to be between rigid brace and exercise for treatment efficacy for AIS.

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MeSH Terms

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