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Overweight is not predictive of bracing failure in adolescent idiopathic scoliosis: results from a retrospective cohort study.

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Abstract

PURPOSE: Overweight was found to be a negative predictor of brace effectiveness for adolescent idiopathic scoliosis (AIS), with a threefold higher risk of progression than in normal weight patients. The aim of this study is to investigate **overweight**, as a predictor of brace results in AIS patients.

METHODS: Design: retrospective cohort study.

POPULATION: 351 AIS patients (306 females), mean age 12.9 ± 1.4, mean Cobb 35.6 ± 11.4°, mean ATR 11 ± 4.3°, BMI 19.7 ± 3, median Risser: 2.

INCLUSION CRITERIA: no previous treatment, full-time prescription of brace at first visit (18-23 h per day), scoliosis physiotherapeutic exercise according to the SEAS protocol associated.

OUTCOME: improved, progressed, and stable according to the 5° Cobb agreed threshold.

STATISTICS: a stepwise linear regression was used to look for the effect of BMI as a predictor of result. A Chi-square test and logistic regression were used for the **overweight** category (BMI ≥ 85th percentile). Control for possible confounders was applied.

RESULTS: BMI is poorly correlated with final results. Confounders' adjustment did not change the correlation, and the predictive model explained about 10% of the result. Brace results were not statistically different in **overweight** and normal weight: 44 vs 52% improved, 52 vs 41% stable, and 3 vs 7% worsened, respectively.

DISCUSSION: Brace results were similar in **overweight** and normal weight subjects. These findings subvert the previous results and disprove the role of **overweight** as a negative predictor. Treatment management, brace type and effectiveness may play a major role in reducing the risks of scoliosis progression.

KEYWORDS: BMI; Braces; **Overweight**; Scoliosis

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