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Braces for idiopathic scoliosis in adolescents.

Negrini S, Minozzi S, Bettany-Saltikov J, Zaina F, Chockalingam N, Grivas TB, Kotwicki T, Maruyama T, Romano M, Vasiliadis ES.

ISICO (Italian Scientific Spine Institute), Milan, Italy. stefano.negrini@isico.it

Abstract

STUDY DESIGN: Cochrane systematic review.

OBJECTIVE: To evaluate the efficacy of bracing in adolescent patients with adolescent idiopathic scoliosis (AIS).

SUMMARY OF BACKGROUND DATA: AIS is a 3-dimensional deformity of the spine. Although AIS can progress during growth and cause a surface deformity, it is usually not symptomatic. However, in adulthood, if the final spinal curvature surpasses a certain critical threshold, the risk of health problems and curve progression is increased. Braces are traditionally recommended to stop curvature progression in some countries and criticized in others. They generally need to be worn full time, with treatment extending over years.

METHODS: The following databases (up to July 2008) were searched with no language limitations: the Cochrane Central Register of Controlled Trials, MEDLINE (from January 1966), EMBASE (from January 1980), and CINHAL (from January 1982), and reference lists of the articles. An extensive handsearch of the gray literature was also conducted. Randomized controlled trials (RCTs) and prospective cohort studies were searched for comparing braces with no treatment, other treatment, surgery, and different types of braces. Two review authors independently assessed trial quality and extracted data.

RESULTS: We included 2 studies. There was very low quality evidence from 1 prospective cohort study with 286 girls that a brace curbed curve progression at the end of growth (success rate, 74% [95% confidence interval {CI}: 52%-84%]), better than observation (success rate, 34% [95% CI: 16%-49%]) and electrical stimulation (success rate, 33% [95% CI: 12%-60%]). There is low-quality evidence from 1 RCT with 43 girls that a rigid brace is more successful than an elastic one (SpineCor) at curbing curve progression when measured in Cobb degrees, but there were no significant differences between the 2 groups in the subjective perception of daily difficulties associated with wearing the brace.

CONCLUSION: There is very low quality evidence in favor of using braces, making generalization very difficult. Further research could change the actual results and our confidence in them; in the meantime, patients' choices should be informed by multidisciplinary discussion. Future research should focus on short- and long-term patient-centered outcomes, in addition to measures such as Cobb angles. RCTs and prospective cohort studies should follow both the Scoliosis Research Society and Society on Scoliosis Orthopedic and Rehabilitation Treatment criteria for bracing studies.

Publication Types, MeSH Terms

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