ORAL PRESENTATION **Open Access**

Retrospective analysis of immediate in-brace correction of scoliosis attainable in patients with AIS: a SOSORT initiative

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From 9th International Conference on Conservative Management of Spinal Deformities - SOSORT 2012 Annual Meeting
Milan, Italy. 10-12 May 2012

Background

The effectiveness of bracing in AIS has been debated for years, and there are few studies that can provide a clear picture of how a brace influences curve magnitude, rate of progression, or reduction in surgery. A 2007 review article found no clear advantage to bracing, over observation, in reducing the need for surgery [1]. However, the article highlighted the lack of uniformity in the studies it reviewed, and the high variability in the outcomes that it pooled. A 2010 Cochrane Systematic Review also found that there was only low-quality evidence in favor of using braces [2]. One must first be able to distinguish effective from ineffective bracing, as there is no reason to evaluate the outcome of ineffective braces. A standard must be set as to the amount of immediate curve correction that a brace should deliver, before any brace treatment is labeled as effective or ineffective. Other authors have outlined the appropriate criteria for evaluating brace effectiveness, but have not included immediate in-brace correction of the curve in their list of outcome measures [3]. This study was developed as a SOSORT board initiative, and will attempt to develop that standard.

Aim

The aim of this study is to evaluate the radiographs of patients who have just had a brace applied, and to determine the amount of correction that is routinely achieved.

Methods

For this study, a group of European physicians, skilled at scoliosis bracing, were recruited to submit sequential pre- and post-bracing radiographs of their patients for a specified period of time. American physicians, experienced in scoliosis evaluation, measured the Cobb angles in the two sets of radiographs. The percent correction was calculated using these two measurements.

Results

The results were stratified according to age, gender, initial curve magnitude, and brace type. Average curve corrections were calculated for each group.

Conclusions

Although there is variation among the subgroups evaluated, an effective brace should be able to achieve 50% correction of the curve magnitude, immediately after application. Research that includes patients whose curves has significantly less than 50% correction in-brace are not studies of "effective" bracing.

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Published: 3 June 2013

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