

ORAL PRESENTATION

Open Access

Effectiveness of the Sforzesco brace according to the SRS and SOSORT criteria for bracing studies

Monia Lusini*, Sabrina Donzelli, Salvatore Minnella, Fabio Zaina, Stefano Negrini

From 10th International Conference on Conservative Management of Spinal Deformities - SOSORT 2013 Annual Meeting

Chicago, IL, USA. 8-11 May 2013

Background

Bracing treatment proved to be a useful conservative care treatment for adolescent idiopathic scoliosis (AIS) patients according to a Cochrane review. Prospective observational trials following the Scoliosis Research Society (SRS) criteria for bracing studies and the SOSORT management criteria, can give other evidence on the effectiveness of bracing in AIS. The Sforzesco brace has been used in worse curves, and its efficacy compared to casting

Purpose

The goal of this study was to check the effectiveness of the Sforzesco brace in AIS treatment according to the SRS and SOSORT criteria.

Methods

Design: Prospective cohort nested in a clinical database started in 2003. Population: on July 31, 2010, in our database there were 7,917 patients with scoliosis. Eighty-nine patients (72 females, 17 males) had a Sforzesco brace prescription at first visit and respected the SRS criteria (AIS; age 10 years or older; Risser test 0-2; Cobb degrees 25°-40°; no prior treatment; females less than one year post-menarche). End-of-treatment was defined as medical prescription, or reaching European Risser 3 (corresponding to American Risser 4). Six patients were excluded because they had not yet finished treatment. At start: 12.56±1.25 years of age; 34.16°±4.25° Cobb; ATR 11.11°±3.10°; Trace 7 (IC95 4;10). In all, 81% reached the 2-year follow-up. Treatment: 68 patients were prescribed the brace 23/24 hours/day, 2 22/24, 16 21/24, 3 18/24. All prescriptions included physiotherapeutic specific exercises (SEAS). All patients were treated until

the end of growth. Failures: efficacy analysis (EA): surgery, end of treatment >45°; intent-to-treat (ITT): as EA + drop-outs.

Results

Six patients dropped out; 38 patients (45.7%) improved >5° Cobb; 38 (45.7%) did not change; 7 (8.4%) worsened; 4 (4.8%) finished >45°; 2 (2.4%) were fused. EA: 5 failures (6.0%); ITT: 11 failures (12.4%). Patients joining treatment achieved a 4.18°±8.37° Cobb improvement (minimum-31°, maximum 38°), an ATR reduction of 3.28±3.46, and a TRACE improvement of 3 points (IC95 -5; 2.44).

Conclusions and discussion

Since this brace is preferred in worst cases, the population was shifted toward high limits of SRS criteria (84.3% >30° at start); nevertheless, this study confirmed the effectiveness of the Sforzesco brace in the treatment of AIS.

Published: 18 September 2013

References

1. Nachemson AL, Peterson LE: Effectiveness of treatment with a brace in girls who have adolescent idiopathic scoliosis. A prospective, controlled study based on data from the Brace Study of the Scoliosis Research Society. *J Bone Joint Surg Am* 1995, **77**(6):815-22.
2. Bunge EM, Habbema JD, de Koning HJ: A randomised controlled trial on the effectiveness of bracing patients with idiopathic scoliosis: failure to include patients and lessons to be learned. *Eur Spine J* 2010, **19**(5):747-53, doi: 10.1007/s00586-010-1337-6. Epub 2010 Mar 1.
3. Negrini S, Minozzi S, Bettany-Saltikov J, Zaina F, Chockalingam N, Grivas TB, Kotwicki T, Maruyama T, Romano M, Vasiladis ES: Braces for idiopathic scoliosis in adolescents. *Cochrane Database Syst Rev* 2010, **20**(1):CD006850, doi: 10.1002/14651858.CD006850.pub2.

doi:10.1186/1748-7161-8-S2-O59

Cite this article as: Lusini et al.: Effectiveness of the Sforzesco brace according to the SRS and SOSORT criteria for bracing studies. *Scoliosis* 2013 **8**(Suppl 2):O59.

* Correspondence: Monia.lusini@isico.it
ISICO Italian Scientific Spine Institute, Milan, Italy