Eur Spine J. 2021 Mar 17. doi: 10.1007/s00586-021-06808-1. Online ahead of print.

Bracing adults with chronic low back pain secondary to severe scoliosis: six months results of a prospective pilot study

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PMID: 33733328 DOI: 10.1007/s00586-021-06808-1

Abstract

Purpose: Adult scoliosis is sometimes associated with back pain and severe curves can progress over time. Despite scoliosis has been estimated to affect up to 68% of the population over 60, there is scant literature about conservative treatment for adult scoliosis. Recently, we tested a new brace designed to alleviate pain for adult patients with chronic pain secondary to scoliosis. The study aims to test the efficacy of a prefabricated brace in reducing pain in adult scoliosis patients.

Methods: Twenty adults (age 67.8 ± 10.5, curve 61.9 ± 12.6° Cobb) with chronic low back pain (cLBP) secondary to Idiopathic Scoliosis (IS) were included. Patients were evaluated at baseline immediately before starting with the brace and after 6 months. Outcome measures were GRS, Oswestry Disability Index (ODI), Roland Morris Questionnaire (RM), COMI. The paired t test, ANOVA and Wilcoxon tests were used for statistical analysis RESULTS: At six months, worst pain, leg pain and back pain were significantly improved: from 7.15 to 5.60, from 5.65 to 4.35 and from 6.55 to 5.25 ($p < 0.05$). Sixty-five percent of patients achieved the minimal clinically important difference of 2 points for worst pain and leg pain, 55% for back pain. RM and COMI improved ($p < 0.05$), no differences for ODI.

Conclusion: The prefabricated brace showed a significant improvement at 6 months of worst, leg and back pain in most patients in a group of adult women with IS and cLBP. The quality of life didn't change in a clinically significant way even if the patients reported satisfaction with the treatment. Trial registration number and date of registration: ClinicalTrials.gov Identifier: NCT02643290, December 31, 2015.

Keywords: Adult scoliosis; Chronic pain; Conservative treatment; Low back pain; Spinal orthotics.