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Correlation between in-brace radiographic correction and short time brace results.

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Abstract

INTRODUCTION: In-brace radiographic correction is considered a reliable check of brace efficacy. The aim of this study was to correlate the in-brace correction with the short term results of treatment (6 months).

METHODS: Design: pre-post study Population: 41 consecutive adolescent girls with idiopathic scoliosis who were prescribed a brace treatment (39 thoracic curves, 37±12°; 16 thoracolumbar, 38±13°; 12 lumbar, 31±8°. Risser 0-3). In-brace radiographic correction and 6 months treatment out of brace X-ray results were correlated, according to curve localization. The in-brace/out-of-brace ratio was calculated, curves were grouped according to the Risser sign, the results (<10°, ≥10° out-of-brace), in-brace correction (<10°, ≥10°), the magnitude (<30°, 30°-45°, >45°). Statistical analysis: Correlation Coefficient.

RESULTS: The in-brace/out-of-brace ratio varied according to localization of curve and Risser, achieving the best results for thoracic curves (38-45%). The groups of thoracolumbar and lumbar had higher variability (17-65% and 17-40%). The correlation coefficient between in-brace correction and out-of-brace results was statistically significant: 0.85 for thoracic curves, 0.64 thoracolumbar, 0.72 lumbar. Risser groups: 0.65-0.98 thoracic, 0,78-0.90 thoracolumbar, 0.94-0.98 lumbar. For Results groups, the correlation was better for the group with high degree of correction (High results) in lumbar and the group with low degree of correction (Low results) for thoracolumbar, no differences for thoracic. Low in-brace correction had a low correlation coefficient for thoracic and lumbar curves. No differences for Magnitude.

CONCLUSION: The in-brace correction ranges from 17 to 47% of the curve magnitude. The correlation between in-brace correction and short time results of brace is significant, range 0.64-0.98. The in-brace correction seems able to predict the short time results of treatment.

Publication Types, MeSH Terms

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