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The conservative treatment of thoracolumbar and lumbar idiopathic scoliotic curves with the Progressive Action Short Brace (P.A.S.B.)

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Objective

The aim of the study is to evaluate the clinical effectiveness of the Progressive Action Short Brace (P.A.S.B.). The action of this brace, developed by the authors, is based on the corrective effect of the forces generated during spine dynamics, when spine dynamics are limited by the brace.

Study design

A prospective roentgenographic study was carried out on sixty-seven patients affected with adolescent idiopathic scoliosis (AIS). Treatment with the PASB was preceded by corrective plaster casts (1 or 2 depending on the stiffness of the curve). The magnitude of the curve was measured with the Cobb's method and vertebral torsion within the major curve with Perdriolle's method [1,2]. Radiographic measurements were obtained at the following times by three observers: t1 (start of treatment), t2 (best correction in brace), t3 (intermediate time between t2 and t4), t4 (end of weaning) and t5 (last follow-up, 36.37 ± 11.71 months after t4).

Results

The results showed the following changes from time t1 to t5: Cobb's angle was improved from 23.66 ± 6.37 degrees at t1 to 16.20 ± 8.51 degrees at t5); apical vertebra torsion improved from 12.46 ± 5.99 at t1 to 9.70 ± 6.59 at t5); mean torsion of the whole curve improved from 9.11 ± 3.97 at t1 to 7.20 ± 5.00 at t5.

Conclusion

The statistical analysis supports the clinical effectiveness of the P.A.S.B. Results show that treatment not only stops the progression of the curve, but is even able to reduce, to a variable extent, the values of Cobb magnitude in thoracolumbar and lumbar curves.

References

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