Effectiveness of the SpineCor treatment for different Cobb magnitude as well as for juvenile scoliosis.

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INTRODUCTION

The purpose of this prospective cohort study was to evaluate the effectiveness of the Dynamic SpineCor brace for large adolescent idiopathic scoliosis (40°-50°), moderate (30°-40°), small curves (15°-30°) and for juvenile scoliosis.

METHOD

657 consecutive scoliotic patients that accepted the treatment and had a definite outcome were included in this study. We divided the patients in tree groups depending on the initial Cobb angle: 15-29° (n=378), 30-39° (n=207) and 40-50° (n=72).

150 juvenile patients were treated by the SpineCor orthosis. Of these, 67 patients had a definite outcome and 83 are still actively being treated (Coillard et al; 2010).

Assessment of brace effectiveness included: 1) percentage of patients who have 5º or less curve progression and the percentage of patients who have 6º or more progression at skeletal maturity, 2) percentage of patients who have had surgery recommendation before skeletal maturity.

RESULTS

Success of the treatment (stabilisation or correction) was achieved in 80.8% of patients with small curves compared to 62.9% for moderate and 46% for large curves. Progression of curves was observed in 14% of small curves compared with 28.9% for moderate and 48.5% for large curves. (Table 1).

Two years follow-up post treatment

Correction | Stabilization | Progression | Surgery | Withdraw
---|---|---|---|---
15-29° (N=378) | 157 | 148 | 43 | 14 | 16
30-39° (N=207) | 60 | 70 | 22 | 38 | 17
40-49° (N=72) | 14 | 19 | 8 | 27 | 4
Juvenile (N=67) | 21 | 8 | 9 | 25 | 4

Table 1: Treatment outcome

DISCUSSION

From our study we can clearly see that the effectiveness of the SpineCor orthosis in obtaining and maintaining the neuromuscular integration of the corrective movement can be achieved effectively for all curve magnitudes as well as for juvenile patients. Over 75% of all patients that finished the treatment had remained stable with a few continuing to correct their Cobb angle after the use of the SpineCor orthosis was discontinued.

CONCLUSION

Our conclusion from this study is that the SpineCor orthosis is a very effective method of treatment of adolescent and juvenile idiopathic scoliosis. The results obtained also indicate that treatment outcomes are better with early bracing. Most encouraging perhaps is the fact that the positive outcome appears to be maintained in the long term, and that surgery can be avoided or at least postponed.

REFERENCES

Coillard et al; Scoliosis. 2010 Nov 10;5:25