

ORAL PRESENTATION

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It is possible to maintain a high compliance even in the long term: results from the Thermobrace study

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Background

The importance of compliance monitors is well known; in a previous study, it has been demonstrated that it is possible to obtain a good real compliance (close to the referred one), in a setting respecting SOSORT criteria for bracing. Still, we don't know if, in the long term, compliance remains stable.

Aim

To verify if it is possible to maintain good brace compliance for scoliosis patients, and evaluate what factors could influence the adherence to the treatment in the long term.

Methods

Population. Prospective cohort of 98 Adolescents with spinal deformities (19 males) that have been monitored with a heat sensor (Thermobrace) at least twice; 94.9% had AIS. The average monitoring period was: 591.33 ± 119.31 days. All patients were treated with brace according to the SpoRT concept, with a prescription from 8 to 23 hours per day; and SEAS exercises; team approach followed the SOSORT Bracing Management Guidelines.

Results

Referred compliance remained close to the real, even in the long period. Most of the patients remained within 2 hours from the prescription. Median compliance was 92.5% (IC 95% 58.8-100.8) for the first download; for the second download the median was 92.8% (IC 95% 45.06-102.5%); for the third download the median was 95.5% (IC95% 58.1-105.5) for the fourth download the median compliance was 93.70 (IC95% 76.9-108) for all periods it was 94.6% (Range 9.0-118.9%). At first download 53.6% of

the patients had at least 90% real compliance; this percentage showed a tendency to increase at the second check (60.9%; P=0.11), remaining at 59.6% at the third. In this sample, gender, age, Risser, curve magnitude, and brace type did not influence compliance. When the weaning period begins, compliance increases; in patients who need to continue with a full time prescription, compliance slightly decreases, even if it remains over 80%.

Conclusion

It is possible to maintain a high compliance, even in the long term; this underlines the importance of the treating team, whose aim is to guarantee good end of growth results. A longer period of monitoring is needed to clearly recognize factors influencing compliance.

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References

1. Muller C, Fuchs K, Winter C, Rosenbaum D, Schmidt C, Bullmann V, Schulte TL: Prospective evaluation of physical activity in patients with idiopathic scoliosis or kyphosis receiving brace treatment. *Eur Spine J* 2011.
2. Katz DE, Durrani AA: Factors that influence outcome in bracing large curves in patients with adolescent idiopathic scoliosis. *Spine* 2001, **26**(21):2354-2361.
3. Benish BM, Smith KJ, Schwartz MH: Validation of a Miniature Thermochron for Monitoring Thoracolumbosacral Orthosis Wear Time. *Spine (Phila Pa 1976)* 2011.

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