

Oral presentation

Open Access

## The short-term effect of therapeutic exercises (TE) in adolescent idiopathic scoliosis (AIS) evaluated by the BACES system

Caterina Cisotti\*<sup>1</sup>, C Volpatti<sup>1</sup>, F D'Ossualdo<sup>2</sup> and S Schierano<sup>2</sup>

Address: <sup>1</sup>Corso di Laurea in Fisioterapia, Facoltà di Medicina, Università degli Studi di Udine, Italy and <sup>2</sup>Riabilitazione Patologie ad Esordio Infantile, IMFR, ASS n 4 "Medio Friuli", Udine, Italy

\* Corresponding author

from 5<sup>th</sup> International Conference on Conservative Management of Spinal Deformities  
Athens, Greece. 3–5 April 2008

Published: 15 January 2009

*Scoliosis* 2009, **4**(Suppl 1):O30 doi:10.1186/1748-7161-4-S1-O30

This abstract is available from: <http://www.scoliosisjournal.com/content/4/S1/O30>

© 2009 Cisotti et al; licensee BioMed Central Ltd.

### Introduction

Therapeutic exercises contribute to reduce signs and symptoms of AIS, although their relevance in scoliosis management is still under debate. Scientific literature shows a wide variety of exercises.

### Aim

The goal of our presentation is to illustrate the short-term effects of a few exercises for AIS and to suggest some methodological considerations.

### Materials and methods

Ten female adolescents affected by AIS (moderate severity; mean age:12,9 years) were enrolled. The short-term effects of 3 exercises (self-elongation, kyphotisation, side-shift) were evaluated, during standing and sitting, in comparison to their own spontaneous posture. Cobb angle of kyphosis and lordosis, ATR, plumb alignment were measured with the BACES system. Exercises were considered effective if the differences of the alignment of the spine were statistically significant when compared with spontaneous posture data. Distribution of frequencies was performed to show the results.

### Results

The effect of therapeutic exercises is characterized by a very high variability among patients. Standing position guarantees a better correction of scoliotic deformity than sitting. Side-shift exercises improve scoliotic deformity in the major part of patients.

### Discussion

It is feasible to verify the short-term efficacy of exercises with surface methods. The effect is often unpredictable, with a lot of variability. Among our exercises, the side-shift exercise seems to be the more effective in reducing both side translation and rotation of the back, especially while standing.

### Conclusion

Considering the unpredictable effects, every exercise should be tested before being prescribed.

### References

1. Dickson RA: **Spinal Deformity – Adolescent Idiopathic Scoliosis. Nonoperative treatment.** *Spine* 1999, **24**(24):2601-2606.
2. Rigo M, et al.: **International conference on conservative management of spinal deformities (Barcelona 2004).** *Paediatric Rehabilitation* 2004, **7**:51-64.
3. Maruyama T, Kitagawa T, Takeshita K, Mochizuki K, Nakamura K: **Conservative treatment for adolescent idiopathic scoliosis: can it reduce the incidence of surgical treatment?** *Paediatric Rehabilitation* 2003, **6**:215-219.