

## **SCIENTIFIC SESSION X: PHYSIOTHERAPY**

**TIME: 13:30 - 14:15 / May, 20th**

**O-49**

### **MOBILIZATION EXERCISES IN PREPARATION TO BRACING MUST BE MADE ONLY AT START OF BRACE WEARING. RESULTS FROM A PROSPECTIVE CONTROLLED STUDY**

M. Romano, A. Negrini, S. Parzini, S. Donzelli, F. Zaina, S. Negrini.

ISICO, Milan, Italy

#### **PURPOSE/BACKGROUND**

Some exercises protocols (SEAS, Lyon) for scoliosis patients before brace wearing require a period of mobilization exercises to reduce spine and muscle stiffness, and obtain a better action of the brace. Aim of this study is to define when these exercises should be applied to achieve the best results of bracing

#### **METHODS**

Population: 357 consecutive scoliosis patients with 23 hours per day brace prescription (299 females, Age  $13.2 \pm 11.1$  °Cobb:  $41.4 \pm 9.5$ , Risser  $1.2 \pm 1.2$ ). Control: out-of-brace 6 months x-ray. The 206 SEAS patients have been divided according to time elapsed between start of mobilization exercises and start of brace wearing. We also had two control groups: one Usual Physiotherapy (UP: 115) and one No exercises (NE: 36) Statistical analysis: Anova, T-Test and Relative Risk

#### **RESULTS**

At baseline there were some differences, with the SEAS patients worst than UP and NE. All patients in all groups improved in almost all parameters with brace treatment (more in SEAS than UP and NE). Best results (statistically significant for Cobb degrees, ATR and Trace in comparison with other SEAS groups, but also with UP and NE) have been obtained by patients who performed mobilizing exercises almost at the same time with start of bracing.

#### **CONCLUSION**

Despite our starting idea, that spinal mobilization exercises should start at least two months before bracing, our results show that they are more effective when patients perform this protocol at the same time in which they start wearing the brace. This drove to change SEAS protocol accordingly.

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### **ADOLESCENTS WITH 10° TO 20° COBB SCOLIOSIS DURING GROWTH: EFFICACY OF CONSERVATIVE TREATMENTS. A PROSPECTIVE CONTROLLED COHORT OBSERVATIONAL STUDY**

M. Romano, A. Negrini, S. Parzini, S. Donzelli, F. Zaina, S. Negrini.

ISICO, Milan, Italy

#### **PURPOSE/BACKGROUND**

Usually scoliosis between 10° and 20° are not treated: in some Centres conservative preventive treatment is provided. Aim of this study is to compare results of different type of treatments.

#### **METHODS**

Population: 288 consecutive scoliosis patients over 10 years of age, curves range 10-20°, Risser 0-3 (190 Females, Age  $12.8 \pm 1.5$ ). We had 5 groups:

- Brace (BG, 40 patients): bracing 18 hours per day
- SEAS (101 patients): specific SEAS exercises (at least 3 controls per year)
- Usual Physiotherapy (UP, 70 patients): different type of exercises
- Not Compliant (NC, 46 patients): SEAS exercises 2 (or less) controls per year
- Controls (CG, 31 patients): no treatment.

Main outcome (after  $12 \pm 4$  months): Relative Risk of failure of treatment (worsening of 5°C or brace prescription).

#### **RESULTS**

At baseline BG differed from the other groups for almost all parameters. In BG failures were 10%, improvements 45%; in SEAS 16% and 30% respectively.

When compared to SEAS (and not considering BG), Relative Risk of failure was statistically significantly increased in CG (1.9, IC95 1.28-2.53) and NC (2.02, IC95 1.34-2.70), but not in UP (1.52, IC95 0.91-2.13). All patients other than SEAS had an increased Relative Risk of failure (1.74, IC95 1.22-2.26).

In BG and SEAS Trace and Cobb degrees statistically decreased (in BG also ATR), while in NC and CG humps progressed. Results were statistically better for SEAS and BG than the other groups for Trace and hump.

#### **CONCLUSION**

Conservative treatment with Brace or SEAS consistently reduce the risk of progression.