

ORAL PRESENTATION

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Evaluation of pelvic asymmetry and lower limb functional shortening in a cohort of children re-examined after a ten-year observation

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Background

The study is a cohort study of children for the occurrence of pelvic asymmetry and functional lower limb shortening.

Aim

The aim of the study was to assess changes in the prevalence of symmetry of the pelvis and lower limb functional length in children and adolescents after a 10 year observation.

Material and methods

A group of 100 children and adolescents, aged 4-16 years, including 58 girls and 42 boys, were examined initially in 1997 and then re-examined 10 years later. Clinical examination was performed by the same observer (first author), using the same methodology. The exam consisted of: (1) clinical assessment of pelvic symmetry, (2) functional lower limb discrepancy assessment based on Rippstein plurimeter measurement of iliac spines position. Squared Chi test was used for comparison.

Results

The age at follow-up ranged from 14 to 26 years. Clinical pelvis asymmetry was identified in 23.8% and 71.4% of boys during the first and second exam, respectively and in 22.4% and 46.5 % of girls, respectively. In boys, the functional lower limb discrepancy was found in 9.7% and 18.6% during the first and the second examination, respectively, with prevalence in respect to the left leg shortening 2.4% and the right leg 37.8%, respectively, difference significant. In girls, in the first study, the functional shortening

of the lower limb was found more frequently in the left leg 25.4% compared to 8.5% in the right. In the second study, the functional shortening of the left lower limb was found in 18.7% in 28.9% for the right one.

Conclusions

1. The second examination revealed a significant increase in occurrence of pelvic asymmetry.
2. After 10 years the functional shortening of one of the lower limbs increased in both sexes.
3. In the first study, a functional shortening of the left lower extremity predominated in the girls, while in the second study it was the right lower extremity and was identified in the boys.

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