**P364-e**

**Rehabilitation strategies in bilateral longitudinal deficiency of tibia: A clinical case**

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**Keywords:** Longitudinal deficiency of tibia; Prosthetic training; Rehabilitation

**Objective:** Bilateral longitudinal deficiency of tibia (BDLT) is a rare condition, often requiring elective amputation and specific rehabilitation strategies. The aim of this work is to describe a clinical case of BDLT.

**Material:** L.F., female, 3 weeks old, was referred to our department in the context of BDLT, left hip dysplasia and psychomotor development delay. LF was integrated in a rehabilitation program. At 9 months of age, bilateral knee disarticulation was performed. At 19 months, L.F.’s psychomotor skills were developing favorably and prosthetic training was initiated using endoskeletal prostheses with total contact socket, silicone liner, suspension pin and pediatric SACH foot. Regular evaluations and prosthetic adaptations were made. A second pair of prostheses and a wheeled pediatric walker were necessary at 37 months of age. At this point, L.F. assisted donning the prostheses, helped in transfers and performed assisted broad based gait.

**Discussion:** Despite the combination of bilateral knee disarticulation, hip dysplasia and psychomotor development delay, L.F.’s function improved progressively, reinforcing the importance of early and integrated multidisciplinary rehabilitation approach.

**Further reading**

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**P365-e**

**Perinatal stroke–Clinical aspects and neurodevelopmental outcomes**

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**Keywords:** Perinatal stroke; Newborn; Magnetic Resonance Imaging

**Objective:** Perinatal stroke is a cerebrovascular event occurring during foetal or neonatal life, before 28 days after birth, with pathological or radiological evidence of focal arterial infarction of brain. The aim of this study was to describe clinical presentations and neurodevelopmental outcomes of our case series of perinatal stroke.

**Materials and methods:** A retrospective study was performed at Special Hospital for Cerebral Palsy and Developmental Neurology in Belgrade. We evaluated the psychomotor development of twelve children with perinatal stroke by using the Munich Functional Developmental Diagnosis.

**Results:** Ninety-two percent of respondents were born at term. Both sexes were equally represented. Perinatal stroke was presented with neonatal seizure in 42% of children, with apnoeic crises in 8%, 17% had positive thrombophilic test and 8% had a congenital heart disease. Perinatal stroke was usually a consequence of infarction in the middle cerebral artery (MCA) 84%, 25% in MCA and anterior cerebral artery, and 16% had a bilateral stroke in MCA. Seventy-five percent of evaluated children had unilateral form of cerebral palsy and 25% had bilateral spastic form. All children are late in adopting the milestones of early motor development.

**Discussion:** Hemiplegic cerebral palsy is a common outcome of perinatal stroke.

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**P366-e**

**Effects, paradox and perspectives associated with the use of a unilateral torsion splint in a 5 years old young hemiplegic**


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**Keywords:** Gait analysis; Hemiplegia; Child; Torsion splint

**Introduction:** The patient, prematurely, has a left hemiplegia resulting of a perinatal stroke. At 4 years, her varus-equinus is reduced from –50° to –10° by toxin and casts, then to +5° by a gastrocnemius fasciotomy. During this treatment, a hip external rotation and stiff knee gait appeared. At 5 years, the transverse disorders are confirmed by quantified gait analysis and a unilateral torsion splint is prescribed. Its effects are studied by an advanced biomechanical modeling.

**Material:** External foot progression is corrected (+22°) by a decrease in external hip rotation (+12°) and a correction of the pelvis external rotation (10°). Right knee flexion has improved (+15°). Left foot progression improves from 0° to 15°.

**Discussion:** The expected splint effect is validated. Meanwhile, unexpected improvements effects on the knee and contralateral foot are measured. Paradoxically, the right external rotation of the pelvis is corrected despite the opposite torque transmitted by the cable. An improved presentation of the foot might allow a compensation of this potentially disturbing torque. These effects will be incorporated into the decision process of a possible femoral osteotomy.

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**P367-e**

**Evaluation of an exercise training protocol with the Energy Expenditure Index (EEI) in young cerebral palsy**

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**Keywords:** EEI (Energy Expenditure Index); CP (Cerebral Palsy); Exercise training

The energy expenditure index (EEI) is a functional index to evaluate walking problems calculated during a regular walk for 5 minutes and spontaneous. Two reference values were measured (before and after strength training protocol on ergonomic bike) in 15 children with cerebral palsy, including 10 males and 5 females (mean age 15 ± 2). After a statistical test, it has been found that the post-protocol value is significantly lower (P = 0.0008), which means a walk energetically costs less after training program. The IDE is a tool for functional assessment of objective and reliable test. After the results, it was concluded that physical activity and especially the strength training is highly recommended for children with motor disabilities.

**Further reading**

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