study was to compare how conservative treatments (physiotherapy, orthoses, botulinum toxin A injections and a combination of these) influence these two different patterns.

Material and methods. – Fifteen hemiplegic and 10 diplegic children were recruited. During the clinical evaluation a video-recording of child’s gait before and after treatment with BTX-A injections (walking barefoot and with orthosis) was made. The Observational Gait Scale (OGS) based on split-screen video with slow-motion facility and Gross Motor Function Classification System (GMFCS) were used for the assessment.

Results. – From our preliminary data a multimodality approach seems to be more effective than single modality to maintain a correct alignment of the knee, mainly for hyperextended pattern.

Discussion. – An adequate management of the knee motion results in a more functional gait pattern.

Reference

Effect of radial shock wave therapy for reduction of muscle hypertonia in cerebral palsy
M. Gonkova, E.M. Ilieva, I. Todorova, G. Ferriero, I. Chavdarov

a Department of Physical and Rehabilitation Medicine, Medical University of Plovdiv, Plovdiv, Bulgaria
b Unit of Occupational Rehabilitation and Ergonomics, Salvatore Maugeri Foundation, Scientific Institute of Veruno, Italy
c Specialized Hospital for Rehabilitation of Children with Cerebral Palsy “St. Sofia”, Sofia, Bulgaria

Keywords: Spasticity; Cerebral palsy; Radial shock wave therapy

Background. – Extracorporeal shock wave therapy is used for the treatment of musculoskeletal disorders.

Objective. – The aim of our study was to investigate the effect of radial shock wave therapy (RSWT) on muscle spasticity of plantar flexor muscles in children with cerebral palsy.

Twenty-five children, mean age 4.84 ± 3.11 years, with spastic diplegia and hemiplegia participated in the study. One placebo session was applied followed four weeks later by one active treatment session. We used passive range of motion, Modified Ashworth Scale and baropodometric measurements for outcome assessment.

Results. – After RSWT, a significant increase in passive range of motion was observed: 47.00 ± 2.298 versus 33.25 ± 2.208 (P < 0.001), which persisted at fourth week (44.12 ± 1.938, P < 0.001). The Modified Ashworth Scale score decreased from 2.77 to 2.00 points (P < 0.001), persisting at the fourth week (2.15 ± 0.76, P < 0.001). Baropodometric measurement showed a significant increase in the contact plantar surface area (from 81.32 ± 6.14 to 101.58 ± 5.41 cm², P < 0.001) and in heel pressure (from 50.47 ± 6.61 to 75.17 ± 3.42 N/cm², P < 0.001).

Conclusion. – There is a significant decrease of spasticity in children with cerebral palsy after the application of RSWT.

Further reading

http://dx.doi.org/10.1016/j.rehab.2014.03.1288