

Efficacy of Botulinum Toxin in Alleviating Pain Syndrome in Stroke Patients with Upper Limb Spasticity

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Abstract : Introduction: Spasticity is a severe consequence of stroke, leading to profound disability, decreased quality of life and decrease of rehabilitation efficacy [4]. Spasticity is often associated with pain syndrome, arising from joint damage of paretic limbs (postural arthropathy) or painful spasm of paretic limb muscles. It is generally accepted that injection of botulinum toxin into a cramped muscle leads to decrease of muscle tone and improves motion range in paretic limb, which is accompanied by pain alleviation. Study aim: To evaluate the change in pain syndrome intensity after injections of botulinum toxin A (Xeomin) in stroke patients with upper limb spasticity. Patients and methods. 21 patients aged 47-74 years were evaluated. Inclusion criteria were: acute stroke 4-7 months before the inclusion into the study, leading to spasticity of wrist and/or finger flexors, elbow flexor or forearm pronator, associated with severe pain syndrome. Patients received Xeomin as monotherapy 90-300 U, according to spasticity pattern. Efficacy evaluation was performed using Ashworth scale, disability assessment scale (DAS), caregiver burden scale and global treatment benefit assessment on weeks 2, 4, 8 and 12. Efficacy criterion was the decrease of pain syndrome by week 4 on PQLS and VAS. Results: The study revealed a significant improvement of measured indices after 4 weeks of treatment, which persisted until the 12 week of treatment. Xeomin is effective in reducing muscle tone of flexors of wrist, fingers and elbow, forearm pronators. By the 4th week of treatment we observed a significant improvement on DAS ($p < 0,05$), Ashworth scale (1-2 points) in all patients ($p < 0,05$), caregiver burden scale ($p < 0,05$). A significant decrease of pain syndrome by the 4th week of treatment on PQLS ($p < 0,05$) и VAS ($p < 0,05$) was observed. No adverse effect were registered. Conclusion: Xeomin is an effective treatment of pain syndrome in postural upper limb spasticity after stroke. Xeomin treatment leads to a significant improvement on PQLS and VAS.

Keywords : botulinum toxin, pain syndrome, spasticity, stroke

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