E-Poster

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Early Treatment with Botulinum Toxin Type A in Patients With Post-Stroke Sequelae: Our Experience at the Neurorehabilitation Clinic, IRCCS Ospedale Policlinico San Martino, Genoa

Topic: Complications/Sequelae (ie Spasticity, Immobilization and Frailty)

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BACKGROUND

Spasticity affects 4-27% of stroke patients within six weeks and 17-38% at 12 months, interfering with motor functions, caregiving, and causing pain. Spastic dystonia, a severe form of spasticity, leads to pathological postures and intrinsic muscle changes, resulting in significant disability. Botulinum toxin is the gold standard for treating focal spasticity in the chronic phase. Early treatment may reduce muscle tone, prevent contractures, and improve outcomes, but guidelines on the timing and efficacy of early intervention are lacking. This pilot study aims to evaluate whether early botulinum toxin treatment in the subacute phase can prevent chronic spastic dystonia and enhance motor recovery through neuronal plasticity.

METHODS

We recruited 11 patients (9 males, 2 females, mean age 65 years) with subacute ischemic or hemorrhagic stroke sequelae. After initial treatment at the Neurology Units of IRCCS Ospedale Policlinico San Martino in Genoa, patients were transferred to a Neurorehabilitation Clinic for intensive therapy. Emerging spasticity was assessed using the Modified Ashworth Scale (MAS) for hypertonia, the Visual Analog Scale (VAS) for pain, the Rankin scale for premorbid disability, the Barthel Index for functional disability, and the FAST-UL for upper limb motor deficits. Botulinum toxin type A was administered under ultrasound guidance (T0), targeting the upper limb in eight patients and both limbs in three patients. Reassessments were conducted at 1 (T1), 3 (T2), 6 (T3), and 12 months (T4). Booster doses were given if hypertonia persisted at T1.

RESULTS

All patients tolerated treatment well, with no systemic side effects or negative impact on recovery. Four patients received booster doses at T1 for persistent hypertonia. Pain, present in four patients at T0, decreased in all by T1 and T2. At T3 and T4, spastic hypertonia persisted but did not develop into severe spastic dystonia, confirming the safety and effectiveness of early botulinum toxin intervention.

CONCLUSION

Spasticity is a common post-stroke complication, especially in the upper limb. Botulinum toxin is effective for focal spasticity, with early treatment reducing contractures. Our pilot study shows good tolerability, pain reduction, and no adverse effects. Further research will expand the sample and refine timing to confirm these findings.

Statement of Disclosures

None

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