



toxins



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Botulinum Toxin: From Poison to Possible Treatment for Spasticity and Movement Disorder

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Message from the Guest Editors

Botulinum Toxin (BoNT), produced by the bacterium *Clostridium botulinum*, is a powerful inhibitor of pre-synaptic transmission of acetylcholine at the neuromuscular junctions (NMJ). Poisoning with BoNT can lead to a rare but serious systemic problem, i.e., botulism. Symptoms of botulism are weakness of muscles that control the limbs, trunk, throat, mouth, and eyes. Botulinum can weaken the muscles involved in breathing, leading to difficulty breathing, and even death. However, when a small dose of BoNT is precisely injected into a muscle, a locally confined and long-lasting neuromuscular block develops, leading to targeted muscle paralysis. As such, poisonous BoNT can be turned into therapeutic purposes. BoNT has a broad spectrum of clinical applications, including, but not limited to, management of limb spasticity, cervical dystonia, strabismus, bladder overactivity, chronic pelvic pain.

This Issue is focused on but not limited to novel and advanced NMJ-target injection technique development and application; advanced understanding of BoNT effects on the nervous system and neuromuscular system; and exploration of new therapeutic and nontherapeutic applications of BoNT.



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Special Issue



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Message from the Editor-in-Chief

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