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Editorial

Improving the Quality of life: The Implication of Intrathecal Baclofen in patients with Protracted Spasticity.

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Spasticity is defined as a velocity-dependent increase in muscle tone. Clinically, it becomes more visible with a rapid stretching movement. The pathogenesis of this clinical entity involves upper motor neuron dysfunction. Patients could present with minor muscle stiffness to uncontrollable, painful muscle contractions. This increased tonicity of multiple muscle groups throughout the body significantly impacts mobility and leads to altered posturing, pressure ulcers, and even leads to continence problems[1]. All of these considerably impede these patients' daily lives.

Some of the common disorders that present with spasticity include Cerebral Palsy, Multiple Sclerosis, Traumatic brain injuries, or spinal cord injuries[2]. These patients have a prolonged history of spasticity and are resistant and do not abate despite using multiple trials of different classes of oral muscle relaxant medications[3]. Treatment strategies start with the most conservative approach like physical therapy, proper posturing techniques, and oral medications and could be escalated to invasive approaches like local botulinum toxin injections and radiologically guided placement of intrathecal medication delivery pumps depending upon the severity of the symptom[4]. However, these intrathecal pumps are useful in chronic spastic disorders but are underused and undervalued. This article signifies the effectiveness of this treatment modality in chronic spasticity.

Baclofen is a GABA receptor agonist widely used to relieve muscle spasticity. Implantable intrathecal baclofen pumps could be considered an effective alternative for patients in which oral baclofen efficacy is limited by bioavailability factors, to those who are suffering from a high degree of sustained muscle contractions[5]. The initially small amount of Baclofen is injected intrathecally. The patient's response is observed before deciding on placing the patient on the metered dose of an Intrathecal baclofen pump.

The success of intrathecal Baclofen is not only seen in relieving spasticity but in patients with neurologic dysfunction such as Cerebral Palsy, it also helps to remodel the gross motor function[6]. In a study performed on 18 patients and followed over 37 months, it was observed that the potency of the pump was reliable over 6 to 9 months, acknowledging the drastic improvement in the measured Functional Independence Measure[7]. In another study performed by Bensmail and colleagues concluded Intrathecal Baclofen to be cost-effective compared to other treatment modalities for spasticity[8]. Though there are complications related to the use of implantable pumps, most of which are mechanical complications such as tear at the junction of the metal connector and the pump or intrathecal fragmentation or could be the side effects of Baclofen from its overdose or withdrawal symptoms[8]. However, implantable drug delivery systems have performed satisfactorily in severely

restricting and stubborn spasticity. It is useful and versatile in terms of its reversibility and externally metered dosage control.

We believe that, while these patients with chronic spasticity are being treated and have multiple visits with their clinicians, it is crucial for clinicians to quantify their treatment response to antispasmodic medications and step-up the treatment strategies in cases of non-responders. This letter is based on the fact that treating spasticity can be challenging as it solely depends on the individual response to the treatment. In this article, although the mainstay of the treatment is Baclofen, it was also necessary to give the patients intermittent botulinum toxins. In many cases, Baclofen alone did not provide any relief and botulinum was needed as an adjuvant along with physical therapy and posturing techniques. Hereby, we give an overall picture of how to approach managing spasticity as it was entirely subjective for treatment response.

Although we are not projecting a medication that would relieve pain for a patient as spasticity is more of stiffness and increased tone, we focus on targeting the major issue of resolving muscle contractions which would indirectly subside pain, as pain is in spasticity, is a result of prolonged tension on the muscle. Our idea behind this letter is to help physicians understand the various routes through which Baclofen can be used in case of sustained spasticity to many it is known as an oral formulation drug and also bring to their notice that sometimes in severe cases even addition of adjuvant therapy is required for escalated recovery. We have tried to present a short and complete picture of our approach to managing spasticity.

Disclosure

The authors have no financial or proprietary interest in the subject matter of this article.

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