E-Poster

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The Sweetest Smile: Effect of Dextrose-Based Lyftogt Perineural Injection Treatment in Increasing Facial Muscle Strength in a Patient With Bell's Palsy: A Case Report

Topic: Injections (Joint, Spine, etc.)

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BACKGROUND

Bell's palsy, a unilateral peripheral facial nerve palsy, is one of the most common acute mononeuropathies. It is characterized by pronounced facial asymmetry and diminished facial expression, which often results in significant psychosocial burden due to difficulty in self-expression and social integration. The usual course of Bell's palsy is one that is self-limiting, however patients with more severe presentations of the disease are less likely to achieve full recovery and may benefit from an array of modalities and interventions. Dextrose-based Lyftogt perineural injection therapy (LPIT) is an intervention pioneered by Dr. John Lyftogt in 2007 which makes use of the injection of dextrose adjacent to peripheral nerves to aid in the management of chronic neuropathic pain. While LPIT has been documented to show improvement in cases of chronic neuropathic pain and different types of neuropathies, its effect on facial nerve palsy has been undocumented. As of this writing, this case report is one of the preliminary studies on the effect of LPIT on the facial nerve.

CASE DESCRIPTION

This case report describes the effect of LPIT in a 22-year-old male Filipino patient presenting with left-sided peripheral facial nerve palsy of 13 months duration despite physiatric management with physical therapy, uridine monophosphate + vitamin B12 + folic acid, and vitamin B12 intramuscular injections. LPIT injections were made on the constriction points and endpoints of the facial nerve guided by the location of pain. After 10 sessions of LPIT, there was marked improvement in facial muscle strength through functional muscle testing of the left occipitofrontalis, zygomaticus, and buccinator muscles from weak functional to functional, while the left orbicularis oculi and orbicularis oris remained to be weak functional. Nerve repair and signs of reinnervation were documented through electromyography and nerve conduction studies.

DISCUSSION

Dextrose reduces chronic neuropathic pain by correcting the glycopenia in affected nerves. It diminishes the burning sensation typical in chronic neuropathic pain by preventing the opening of ligand-gated ion channels on the C-fibers in peripheral somatosensory nerves. This results in the decrease of neurogenic inflammation, allowing the flow of nerve growth factor to the area, thus facilitating nerve repair.

CONCLUSION

Lyftogt perineural injection therapy may produce beneficial effects in increasing muscle strength in patients with persistent facial asymmetry from Bell's palsy. Further studies with a washout period between other interventions and LPIT are recommended. It is also recommended to utilize musculoskeletal ultrasonography to visualize and measure changes in the facial nerve during treatment.

Statement of Disclosures

None

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