E-Poster

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The Value of Ultrasound-Guided Dextrose Hydrodissection in the Treatment of Ulnar Neuropathy Following Elbow Trauma Refractory to Conservative Management: A Case Report

Topic: Injections (Joint, Spine, etc.)

Mara Stefanie De Leon, Meleine Ongchuan

Physical Medicine and Rehabilitation, Philippine Orthopedic Center, Manila, Philippines

BACKGROUND

Ultrasound (US)-guided hydrodissection is a novel procedure used for peripheral nerve impingement. Limited studies are available showing positive results of hydrodissection in the treatment of non-traumatic cases of ulnar neuropathy using steroids, saline, and dextrose in water as injectates. However, there is no available data regarding the use of ultrasound-guided dextrose hydrodissection in traumatic ulnar nerve impingement specifically in cases of olecranon fractures.

CASE DESCRIPTION

This paper describes a case of a 61-year-old Male presenting with chronic ulnar neuropathy across the cubital tunnel refractory to conservative management. The index case has a four-month history of numbness, weakness and neuropathic pain radiating to the medial forearm and fourth to fifth digits following an elbow trauma. Medical and conservative management with relative rest, physical therapy, splinting, and nonsteroidal anti-inflammatory drugs (NSAIDs) were ineffective in alleviating the symptoms. The patient underwent a total of three ultrasound-guided dextrose hydrodissection at two sites using 5 mL of 5% dextrose in water as injectate. The patient experienced complete relief of symptoms immediately after the initial intervention, with consistent improvement in Disabilities of the Arm, Shoulder, and Hand (DASH) and numerical pain rating scale (NPRS) scores throughout the follow-up period. The cross-sectional area of the ulnar nerve by ultrasound and a nerve conduction study was utilized in the evaluation of morphologic and electrophysiological changes. The treatment was performed at two-week intervals which showed consistent and marked improvement in symptomatic, morphologic, and electrophysiological outcomes.

DISCUSSION

Controlled trials with the use of dextrose in water have already been shown to be effective in cases of carpal tunnel syndrome (CTS). As ulnar nerve entrapment is less common than CTS, there are limited publications regarding the use of this injectate in this population. The index case noted an immediate symptomatic improvement after the initial session, while US visualization of the morphological changes began to significantly decrease two weeks after the first intervention. There are no adverse events noted during the entire course of the treatment. This case study shows supportive evidence of this novel procedure as an effective non-surgical treatment option for traumatic cases of ulnar neuropathies that are refractory to conservative treatment.

CONCLUSION

In conclusion, US-guided dextrose hydrodissection could be a promising intervention in the treatment of ulnar neuropathies after traumatic elbow injuries. It is safe and could be an alternative treatment option to invasive surgical treatments for this population.

Statement of Disclosures

None

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Corresponding Author:
Mara Stefanie De Leon
Physical Medicine and Rehabilitation, Philippine Orthopedic Center, Manila, Philippines
Email: marastefaniedeleon@gmail.com