

Pain relief in a patient with snapping scapula after 5% dextrose injection

Başak Mansız-Kaplan , Barış Nacı , Seçil Pervane-Vural , Hakan Genç 

Department of Physical Medicine and Rehabilitation, University of Health Sciences, Ankara Training and Research Hospital, Ankara, Turkey

Received: January 07, 2019 Accepted: June 18, 2019 Published online: August 18, 2020

Snapping scapula is a rare musculoskeletal condition and the frequent symptoms are pain at the superomedial angle of the scapula and a pathological loud snapping sound during the activities. Conservative treatments including activity modification, analgesics, non-steroidal anti-inflammatory drugs, and physical therapy should be attempted for at least six months before referring to surgery.^[1] Herein, we report a case with snapping scapula treated with 5% dextrose injection which has not been used before for this condition.

A 22-year-old woman presented with a two-year of history of pain at the superomedial angle of the right scapula. She had audible loud snapping sound with particularly overhead motions. On physical examination, crepitus with audible loud sound was heard with arm motions. She had tenderness to palpation at the superomedial border, insertion of the levator scapulae and rhomboid muscles. The pain was assessed with Visual Analog Scale (VAS) which is calculated from 0 to 10. The VAS score was measured as 10 in both palpation and arm motions. The Quick Disabilities of the Arm, Shoulder and Hand (QuickDASH) was used to evaluate disability and QuickDASH disability/symptom score was calculated as 38.63. On plain radiography, there was no abnormality. The scapulothoracic bursa was imaged under the serratus anterior muscle by ultrasonography, and inflammation was observed.

As the previous treatments did not relieve her symptoms, the dextrose solution was decided to

inject. The details of the procedure were explained to her and a written informed consent was obtained from the patient. She received. 6 mL 5% dextrose injected into the scapulothoracic bursa using ultrasonography, and 3 mL 5% dextrose into the insertion of levator scapulae and rhomboid muscles. After treatment, the VAS score was 5 at 1 h. On Day 1 and at one week, the VAS score was indicated as 1, when she did overhead motion. Crepitus without sound was felt between 120° to 180° shoulder abduction. There was no tenderness with palpation of the previously sensitive areas. The Quick-DASH disability/symptom score was calculated as 15.90 at one week. At one and three months, improvements in examination findings continued, the VAS score was measured as 1, and the Quick-DASH disability/symptom score was 11.36. No side effects were observed during both injection and follow-up periods.

In a systematic review, dextrose prolotherapy found to be effective in chronic musculoskeletal conditions, particularly tendinopathies and osteoarthritis after three to six months of treatment.^[2] In our case, we found an early improvement in pain, and the pain reduction was 50% (VAS decreased from 10 to 5) at 1 h. Dhir et al.^[3] demonstrated that sensory nerve block was started earlier with 5% dextrose plus local anesthetic than saline plus local anesthetic. In another study, it was suggested that 5% dextrose was effective in reducing the pain after 15 min and it could affect the sensory nerves expressing the transient receptor

Corresponding author: Başak Mansız-Kaplan, MD. SBÜ Ankara Eğitim ve Araştırma Hastanesi, Fiziksel Tıp ve Rehabilitasyon Kliniği, 06230 Altındağ, Ankara, Türkiye.
e-mail: basakmansiz@hotmail.com

Cite this article as:

Mansız-Kaplan B, Nacı B, Pervane-Vural S, Genç H. Pain relief in a patient with snapping scapula after 5% dextrose injection. Turk J Phys Med Rehab 2020;66(3):368-369.

potential vanilloid-1 (TRPV-1) channel in a different way.^[4] It is known that long-term exposure to dextrose may increase messenger ribonucleic acid (mRNA) for TRPV-1.^[5]

In conclusion, in the literature, there is no other case using dextrose injection to the scapulohumeral bursa for the treatment of snapping scapula. In this case report, we, for the first time, demonstrate that 5% dextrose injection is effective up to three months. Based on these findings, we believe that the 5% dextrose injection may be a useful treatment method for patients with snapping scapula.

Declaration of conflicting interests

The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article.

REFERENCES

1. Merolla G, Cerciello S, Paladini P, Porcellini G. Snapping scapula syndrome: current concepts review in conservative and surgical treatment. *Muscles Ligaments Tendons J* 2013;3:80-90.
2. Hauser RA, Lackner JB, Steilen-Matias D, Harris DK. A Systematic Review of Dextrose Prolotherapy for Chronic Musculoskeletal Pain. *Clin Med Insights Arthritis Musculoskelet Disord* 2016;9:139-59.
3. Dhir S, Tureanu L, Bouzari A, Masood A, Francispragasam M, Ganapathy S. Reduction in sodium content of local anesthetics for peripheral nerve blocks: a comparative evaluation of saline with 5% dextrose--a randomized controlled double-blind study. *Anesth Analg* 2012;114:1359-64.
4. Maniquis-Smigel L, Dean Reeves K, Jeffrey Rosen H, Lyftogt J, Graham-Coleman C, Cheng AL, et al. Short Term Analgesic Effects of 5% Dextrose Epidural Injections for Chronic Low Back Pain: A Randomized Controlled Trial. *Anesth Pain Med* 2016;7:e42550.
5. Mohammadi-Farani A, Ghazi-Khansari M, Sahebgharani M. Glucose concentration in culture medium affects mRNA expression of TRPV1 and CB1 receptors and changes capsaicin toxicity in PC12 cells. *Iran J Basic Med Sci* 2014;17:673-8.