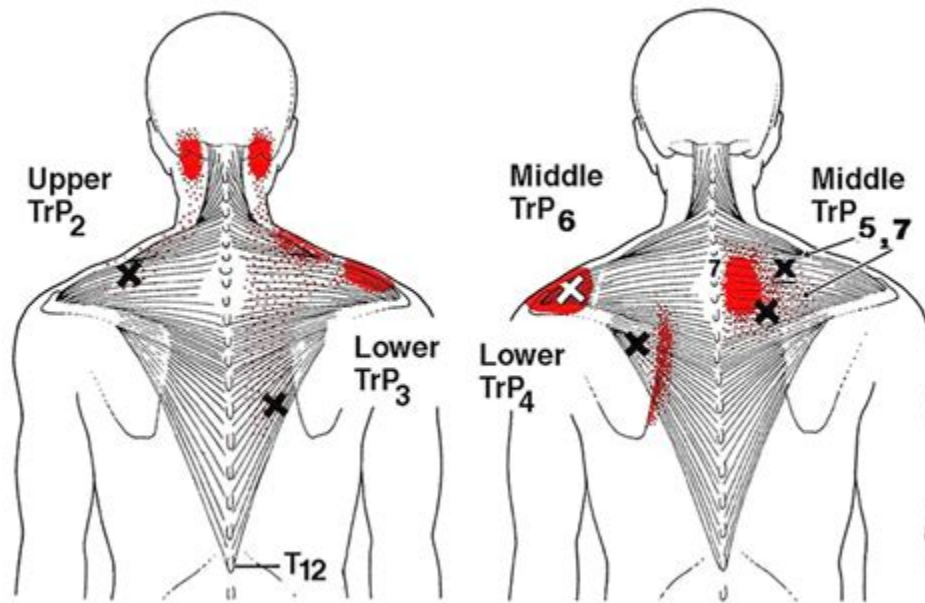


Corticosteroids have a time- and dose-dependent effect on articular cartilage, with beneficial effects occurring at low doses and durations and detrimental effects at high doses and durations. Clinically, beneficial effects are supported for IA administration, but the lowest efficacious dose should be used. Keywords: corticosteroid, articular .



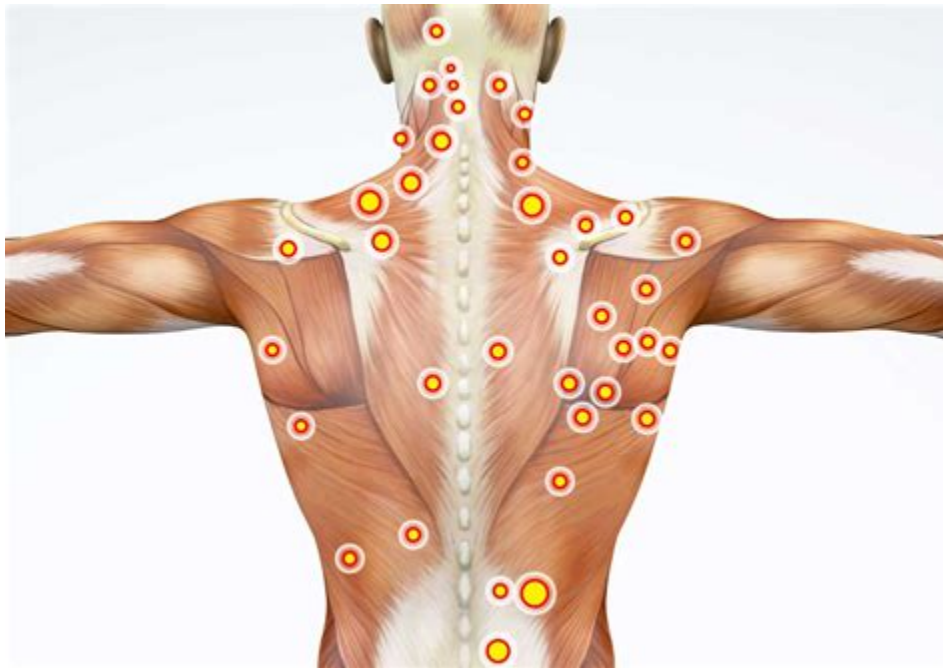
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Trapezius Muscle Spasm Trigger Point Injection - YouTube



Many cases of muscle twitching have been connected to lack of sleep, stress, or anxiety. Steroid use: Both steroid use and discontinuation of steroid use have been reported to cause muscle twitching. But the exact relationship is still unclear. Despite all these possible factors of muscle twitching, it is hard to know for sure exactly what .

Trigger Point Injections (TPI): What They Are & Procedure



In this video we demonstrate the technique for treating a severe trapezius muscle spasm with steroid and bupivacaine injections.

Trigger point injections: Uses, side effects, and more - Medical News Today



What are cortisone shots (steroid injections)? A cortisone shot is an injection of medicine that relieves pain and reduces inflammation (swelling). Healthcare providers also call them steroid injections or steroid shots. These are the same treatment — a dose of a corticosteroid injected into your body.

Muscle twitch day after injection | Anabolic Steroid Forums



a corticosteroid, which reduces inflammation in the muscle and connective tissue surrounding a nerve botulinum toxin A (Botox), which interferes with nerve signaling pathways and prevents.

Muscle spasm after cortisone injection | HealthTap Online Doctor



Last updated on Nov 27, 2023. Had steroid injections in both knees and both hips. Four weeks later steroid injection in one shoulder. I'm a steroid machine! Shortly after, began interruptions 2-3 times nightly with painful leg cramps. Cramps sometimes occur in day along with hand cramps.

Comparison between Steroid Injection and Stretching Exercise on the .



Original Article

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Comparison between Steroid Injection and Stretching Exercise on the Scalene of Patients with Upper Extremity Paresthesia: Randomized Cross-Over Study

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Purpose: To compare the therapeutic effects on upper extremity paresthesia of intra-muscular steroid injections into the scalene muscle with those of stretching exercise only.

Materials and Methods: Twenty patients with upper extremity paresthesia who met the criteria were recruited to participate in this single-blind, crossover study. Fourteen of 20 patients were female. The average age was 45.0±10.5 years and duration of symptom was 12.2±8.7 months. Each participant completed one injection and daily exercise program for 2 weeks. After randomization, half of all patients received ultrasound-guided injection of scalene muscles before exercise, while the other was invited for the other patients.

Results: After two weeks, there was a significant decrease of the visual analog scale score of treatment effect compared with baseline in both groups (6.90 to 2.85 after injection and 5.65 to 4.05 after stretching exercise, $p<0.01$). However, injection resulted in greater improvements than stretching exercise ($p<0.01$). The number of patients with successful treatment, defined as >50% reduction in post-treatment visual analog scale, was 18 of 20 (90.0%) after injection, compared to 5 of 20 (25.0%) after stretching exercise. There were no cases of unintended brachial plexus block after injection.

Conclusion: Ultrasound-guided steroid injection or stretching exercise of scalene muscles led to reduced upper extremity paresthesia in patients who present with localized tenderness in the scalene muscle without electrodiagnostic test abnormalities, although injection treatment resulted in more improvements. The results suggest that symptoms relief might result from injection into the muscle alone not related to blockade of the brachial plexus.

Key Words: Thoracic outlet syndrome, scalene muscle, ultrasound, injection

INTRODUCTION

Thoracic outlet syndrome (TOS) is a condition from compression of the subclavian vessels and/or brachial plexus as the structures travel from the thoracic outlet to the axilla.¹ There is

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*The authors have no financial conflicts of interest.

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some general disagreement among experts on the etiology and pathophysiology of this condition, presumably because of the wide variation in symptoms that manifest in presenting patients, and also because of lack of a definitive gold standard for diagnosis.

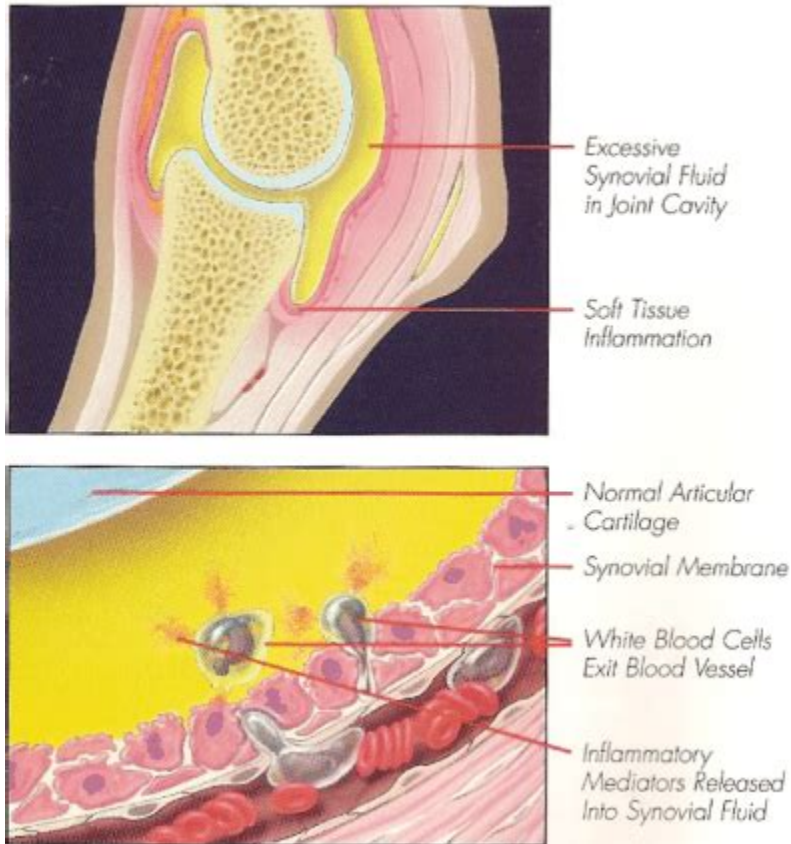
Symptoms associated with TOS have traditionally been divided into vascular and neurogenic causes, a distinction based on the underlying structures implicated. Neurogenic TOS (nTOS) typically presents as compression of the brachial plexus that primarily, but not exclusively, involves its lower trunk. Vascular TOS (vTOS) usually involves compression of the vessel, most commonly the subclavian artery or vein, or is secondary to thrombus formation in the vein. Of the two, over 95% of all TOS patients present with nTOS.²

The thoracic outlet has three anatomic compartments: the

Cervical radiculopathy (also known as "pinched nerve") is a condition that results in neurological dysfunction caused by compression and inflammation of any of the nerve roots of your cervical spine (neck). Neurological dysfunction can include radiating pain, muscle weakness and/or numbness. "Cervical" comes from the Latin word .

The Effect of Intra-articular Corticosteroids on Articular Cartilage

Inflamed joint.



In a patient who has received glucocorticoids and presents with muscle weakness, the diagnosis of steroid-induced myopathy should be considered. Glucocorticoid use can be of any duration, from chronic use to even a single dose. The associated muscle weakness tends to affect the proximal muscles, especially in the lower extremities.

Muscle Twitching: Causes and Treatments - Healthgrades

Twitching

Also known as muscle fasciculation, is a condition characterized by twitching or small contractions of muscles in the body

Muscular Disorders
Systemic Lupus
Multiple Sclerosis
Amyotrophic Lateral Sclerosis
Spinal Muscular Atrophy
Isaac's Syndrome

Causes of Twitching

iClinic

The inclusion criteria were the presence of LBP for at least three months [15, 16], at least one local tenderness or active trigger point in the inferior anatomic region of the QL muscle, which can be distinguished by pain, referred pain, and local twitch response by gentle manual compressing [17-19] and a palpable nodule along with a taut .

Weakness After an Intra-articular Steroid Injection: A Case Report of .

CASE REPORT

Weakness After an Intra-articular Steroid Injection: A Case Report of Acute Steroid-induced Myopathy

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DOI: 10.5811/cpem.2022.2.55995

Introduction: Weakness is a common chief complaint in the emergency department, and the use of glucocorticoids is pervasive in medicine. Muscle weakness, or myopathy, is a well documented side effect of chronic glucocorticoid use. However, acute myopathy, with an onset shortly after initiation of glucocorticoids, is much rarer.

Case Report: We present a case of acute steroid-induced myopathy after a single intra-articular dose of triamcinolone in a young, healthy, active male. To our knowledge, this is the first case described in the medical literature of acute steroid-induced myopathy following a single intra-articular injection.

Conclusion: In a patient who presents with proximal muscle weakness and has a history of glucocorticoid use, the diagnosis of steroid-induced myopathy should be considered. Acute steroid-induced myopathy should be high on the differential in a patient who presents with typical symptoms and has been prescribed glucocorticoids for less than 14 days or, in rare cases, may have recently received a single dose of glucocorticoids. Treatment is supportive and outpatient management is typically indicated, as respiratory muscle involvement is rare. [Clin Pract Cases Emerg Med. 2022;6(2):166-168.]

Keywords: myopathy; steroid; glucocorticoids; intraarticular; case report.

INTRODUCTION

The differential diagnosis of muscle weakness, or myopathy, is very wide. The use of glucocorticoids has been associated with myopathy, typically occurring in patients with long-term oral steroid use. Acute steroid-induced myopathy, developing within 14 days of initiation of glucocorticoids in ambulatory patients, is poorly recognized and rare, with less than 20 cases documented in the literature.¹ This case report details a presentation of acute steroid-induced myopathy. To our knowledge, it is the first case described in the medical literature following a one-time intra-articular injection.

CASE REPORT

A 39-year-old male with a history of osteoarthritis, on as-needed non-steroidal anti-inflammatories, presented to the emergency department (ED) around 3 AM with acute onset of bilateral lower extremity proximal muscle weakness. The patient reported going to bed that evening without any issue and awoke around 2 AM to go to the bathroom, which was not unusual for him. However, he noticed profound weakness of the lower extremities. He could not flex at the hips and was unable to swing his legs out of bed. Eventually the patient was able to pull himself out of bed and slowly guide himself to the bathroom, noting continued severe weakness in his lower

Cortisone injections are used to treat osteoarthritis (OA), which is one of the most common forms of arthritis, . into a muscle, known as an intramuscular injection; into the spine, known as an .

Leg cramps and steroid injections. Is there a connection? - Drugs



What are trigger point injections used for? Healthcare providers use trigger point injections to help treat myofascial pain. "Myo" means muscle and "fascial" means fascia. Your fascia is the thin, white connective tissue that's wrapped around every muscle. The pain and tenderness in myofascial pain are typically due to one or more trigger points.

Comparison of efficacy of corticosteroid injection versus .

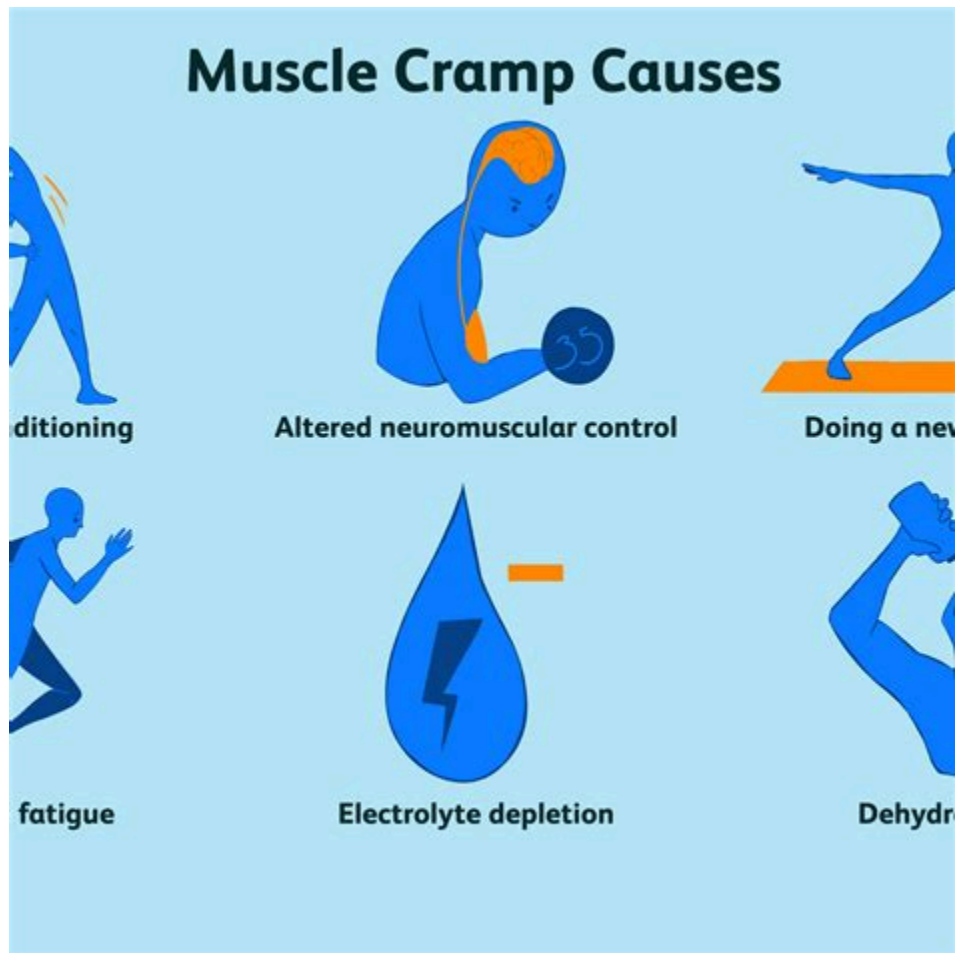
Chart 1: Comparison of corticosteroids (adapted from 4,5,6)

Steroid	Equivalent dosing*	Mg/mL	Type	Solubility (%wt/vol)	Duration of action (bio half life)
Hydrocortisone	1	50	Rapid acting-short duration	.0002	8-12 h
Triamcinolone hexacetonide	5	20	Long acting	.0002	12-36h
Betamethasone sodium phosphate+ betamethasone acetate	25	3+3	Rapid+Long acting	Mixed	12-36h
Triamcinolone acetonide	5	40	Long acting	.0004	12-36h
Depo-medrol 40	5	40	Long acting	.0001	12-36h
Depo-medrol 80	5	80	Long acting	.0001	12-36h

*compared with hydrocortisone mg to mg

A safe and accurate injection technique into the target muscle has been proven using ultrasound (US) guidance. 7,8 The purpose of this study was to compare the therapeutic effects of intra-muscular steroid injections into the scalene muscle under US guidance on upper extremity paresthesia with those of stretching exercise only.

Muscle twitch: Causes, symptoms, treatment, and prevention



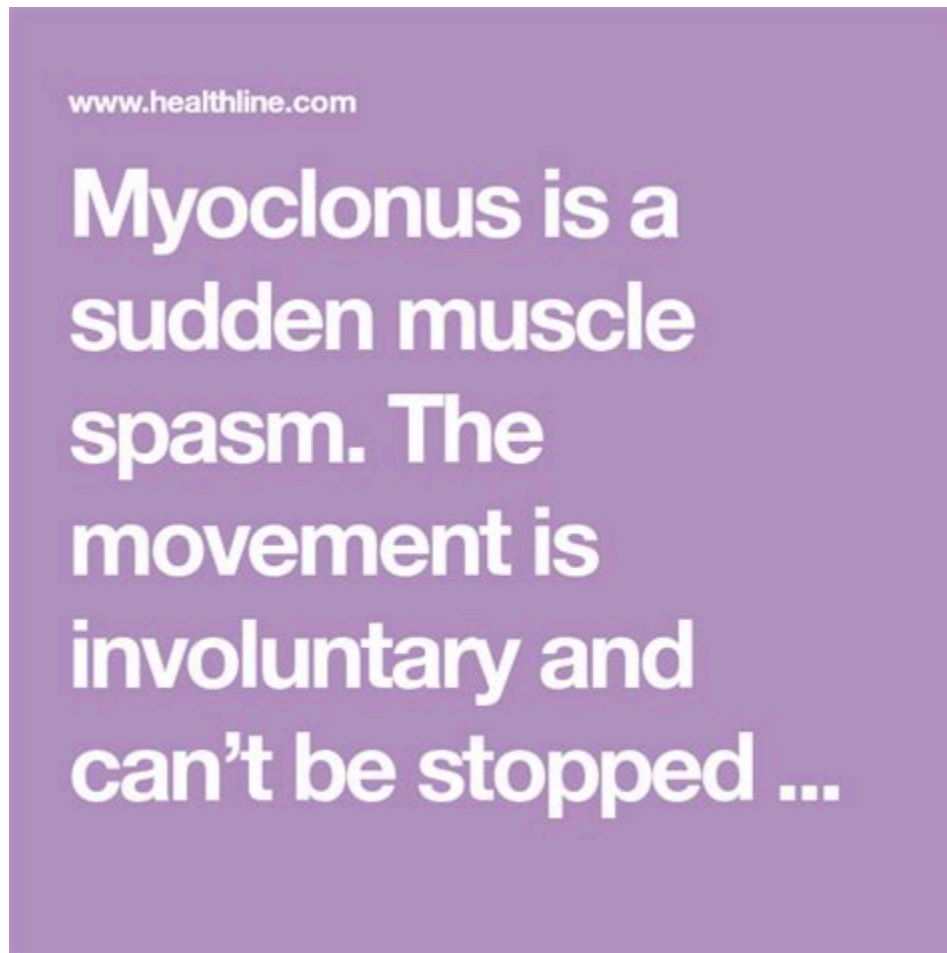
#1 So I have done plenty of delt injections but yesterday I did my right delt (1ml of test E) and this morning my delt muscle started twitching and the twitch has gotten worse throughout the day. It's still twitching. I'm pretty sure it's not from over training.

Common Causes of Muscle Twitching - GoodRx



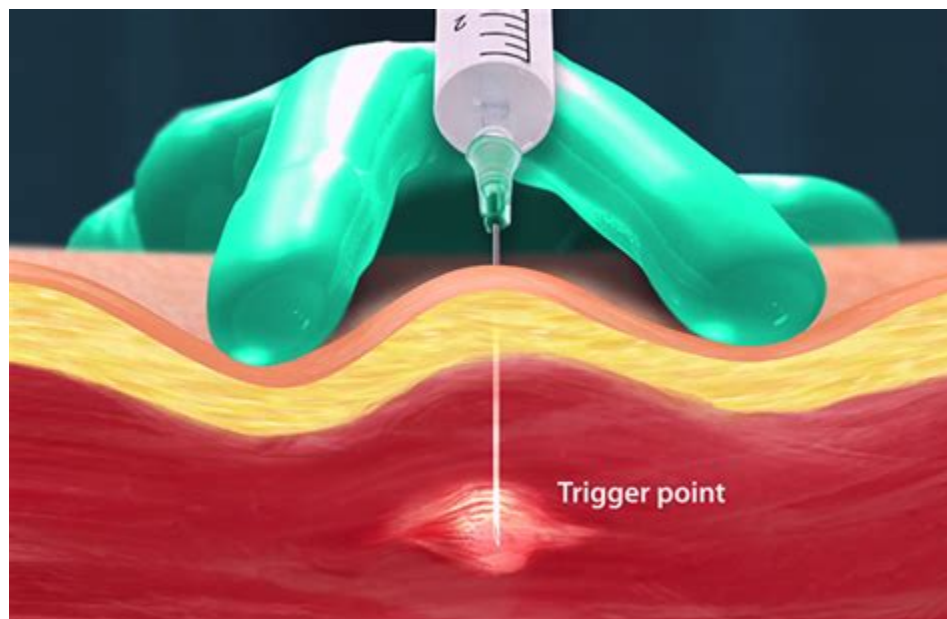
A 28-year-old man, medical student, reports the onset in december of 2008, after initiating tapering schedule for corticosteroids (methyl-prednisolone,1 mg/kg/day), for treatment of MCGN started to present with fasciculations, diffuse in nature, migratory and intermittently.

Myoclonus (Muscle Twitch) - Cleveland Clinic



In an active trigger point, there is an area of tenderness at rest or on palpation, a taut band of muscle, a local twitch response, and referred pain elicited by firm compression similar to the patient's complaint. . Kuan et al. showed that local injection of anaesthetics or steroid can treat some patients with lower abdominal pain presenting .

A New Look at Trigger Point Injections - PMC - National Center for .



Moreover, when firm pressure is applied over the trigger point in a snapping fashion perpendicular to the muscle, a "local twitch response" is often elicited. 10 A local twitch response is.

Benign fasciculations and corticosteroid use: possible association? An .



Benign fasciculations and Corticosteroid use: possible association? An update

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Abstract

Fasciculations are characterized by visible subtle and fast contractions of muscle, even wormlike in movement, by the contraction of a fascicle of muscle fibers. The authors present the case study of a 28-year-old patient with the appearance of migratory and diffuse fasciculations with an onset after partial tapering off of oral corticosteroids (60 mg total dose) indicated for treatment of Minimal change Glomerulopathy. Clinical Neurological physical exam allied with an ENMG, besides other complementary laboratory exams were used for screening the above-mentioned patient. Afterwards, current research relating to the topic at hand was made in order to update the data available in the Bireme, Scielo and PubMed Data Banks using the following key words: Fasciculation's, motor neuron disease, and benign fasciculations in the Portuguese, English as well as Spanish language. Although fasciculation's are most commonly associated with Motor neuron disease as well as with certain metabolic disorders, they may also be present in individuals with absolutely no underlying pathological disorders. In our case,

fasciculation potentials that have been present for six months, with no other signs of a neurogenic disorder as well as absence of laboratory findings, the patient received a diagnosis of Benign Fasciculation Syndrome (BFS). We believe that the use of corticosteroids in high doses with subsequent tapering contributed to the fasciculation's, especially due to the changes that this causes on the ionic channels. Fasciculation's are symptoms seen in a large range of conditions, and also being the main symptom of the so-called Benign Fasciculation Syndrome. We have presented an example of this clinical syndrome in a patient whose complaint was fasciculation's, with complete clinical remission of symptoms following complete tapering off of corticosteroid six months previously.

Introduction

Minimal Change Disease, formerly known as Lipoid Nephrosis, is responsible for approximately 70-90% of childhood Nephrotic syndrome and for 10-15% of adult nephroses.^{1,2} Generally speaking, it presents itself clinically as a primary renal disease, however eventually secondary to several other conditions such as: Hodgkin's disease, certain allergic states, as well as Naiads (a situation which is known as toxic interstitial nephritis. Treatment usually consists of oral therapy with corticosteroids.^{2,3}

Undoubtedly, fasciculation's, even isolated ones, are still considered to be one of the most ominous clinical signs for the neurologist due to their relationship with Amyotrophic Lateral Sclerosis and other motor neuron diseases. In view of this, clinical and neurophysiological reevaluation, as well as specific complementary laboratorial exams, are an integral part of these patients follow up.⁴ Unfortunately, attempts at precisely outlining the true meaning of benign fasciculation's hit upon the absence of specific neurophysiological and clinical studies. Happily, fasciculation's are also present in completely normal individuals with no other underlying pathologic processes involved.^{5,6}

Countless adverse side effects may arise during corticosteroid use, regardless of the dose. However, discontinuing the drug, even cautiously, is also potentially hazardous because of the possible occurrence of two events: Tapering off syndrome (Abstinence) and Secondary Adrenocortical Failure.^{6,7} There is no research available in the current medical literature that associate use of corticosteroids with the occurrence of BFS. Thus, the objective of the study at hand is to present the case of a patient who began presenting with benign fasciculations at the moment of corticosteroid

Neurology International 2011; volume 3:e11

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Key words: electroneurography, fasciculation's, benign fasciculation syndrome.

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Neurology International 2011, 3:e11
doi:10.4081/ni.2011.e11

tapering, in this specific case, methylprednisolone.

Case Report

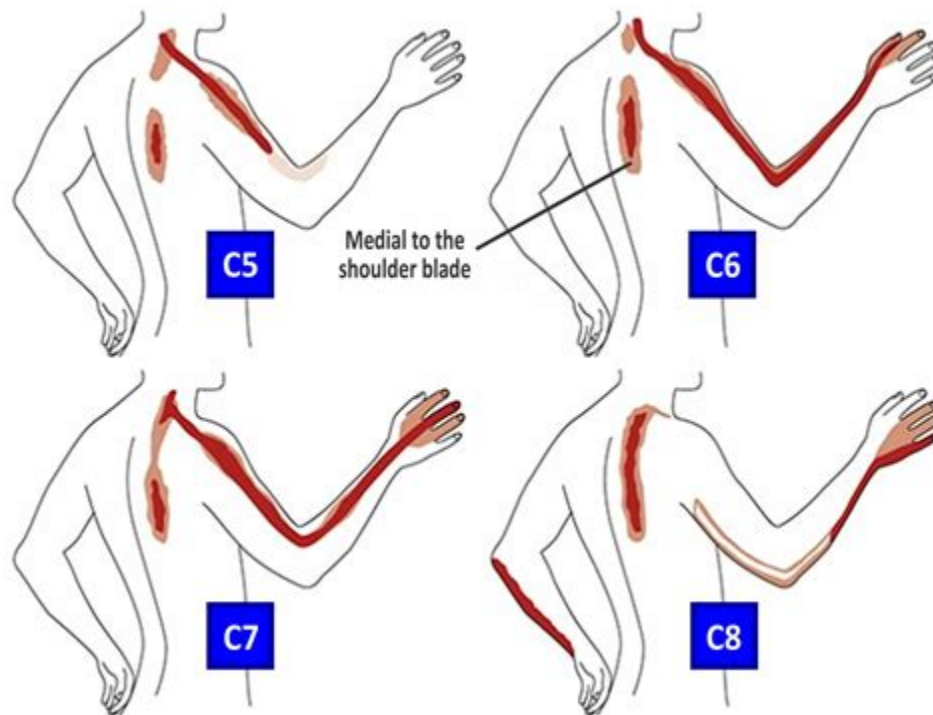
A 28-year-old man, medical student, reports the onset in december of 2008, after initiating tapering schedule for corticosteroids (methylprednisolone, 1 mg/kg/day), for treatment of MCGN started to present with fasciculations, diffuse in nature, migratory and intermittently. He says that the onset of symptoms coincided with the tapering of corticosteroids, which was initially at a dose of 60 mg/kg/day during 15 days, being gradually reduced to 20 mg/day on an alternate-day schedule, until its complete withdrawal in 8 weeks. He also says he had previously experienced the same clinical picture when his fasciculatory symptoms lasted for 3 months following abstinence. Initially, the fasciculation's were noticed in the proximal third of his arm and the distal third of his thigh. Later on, intrinsic muscles of the hand and face as well as the shoulder girdle were also involved. They would last several days in specific regions, and, subsequently, would spread to other more distant parts of the body. Physical exertional activity would worsen the fasciculations and would sometimes evolve into painful joint/arthritis-like symptoms.

The patient denied any type of paresis, muscular atrophy or cramps. The patient was then submitted to a neurologic exam in December of 2008, which revealed upon inspection, rapid, diffuse and visible contractions in face, trunk, upper and lower limbs. Superficial and deep reflexes were normal. No motor neuron involvement was found. Sensibility was also normal. A CBC, electrolyte profile (potassium= 4.2 mEq/L, calcium= 5.1 mEq/L, magnesium= 2.2 mEq/L, phosphorus= 2.9 mEq/L) thyroid function, viral serology, and basal corti-



Myoclonus is a brief, sudden muscle movement (like a twitch, jerk or spasm). It happens when muscles incorrectly activate and usually lasts just a fraction of a second. It can affect a single muscle or a group of them. Some causes are more likely to affect muscles in your hands or feet, shoulders or hips, back or face.

Cervical Radiculopathy (Pinched Nerve) - Cleveland Clinic



Can a cortisone injection in your thigh create muscle spasms? Dr. Scott Keith answered Podiatry 46 years experience Possibly. : Though not a typical phenomena after an injection, it is entirely possible. Occasionally, the injected solution may irritate a nerve that could tempor. [Read More](#)

Cortisone Shots (Steroid Injections): Benefits & Side Effects

THE BENEFITS OF CORTISONE INJECTIONS

There are many potential benefits of cortisone injections, including:

- Treating unmanageable pain
- Improving work and social lives
- Improving joint function
- Limiting the necessity for invasive procedures
- Confirming a diagnosis

Mufaddal Gombera, MD
ORTHOPEDIC SURGERY & SPORTS MEDICINE



Thinning of skin and soft tissue around the injection site. Whitening or lightening of the skin around the injection site. Limits on the number of cortisone shots. There's concern that repeated cortisone shots might damage the cartilage within a joint. So doctors typically limit the number of cortisone shots into a

joint.

Cortisone flare: Causes, side effects, and management - Medical News Today



Muscle twitching refers to minor, involuntary contractions of a particular muscle. Learn more about what causes it and how doctors can treat it. . A cortisone injection is a shot used to relieve joint problems, such as arthritis or tendinitis. Find out how these treatments work, and what to expect. 8 Tips for Choosing an Orthopedic Surgeon

Cortisone shots - Mayo Clinic



Muscle twitches can occur for many reasons, such as a lack of sleep, nutrient deficiencies, overexertion, and stress. Depending on the cause, treatments and remedies may help a muscle twitch. A .

- https://hub.docker.com/r/paulsteele/hgh_cycle_height_growth
- <https://publiclab.org/notes/print/42942>
- <https://www.hoggit.com/Object/26016/inj-deca-durabolin-25-mg-price-injectable-oral-steroids-hgh-peptides-antiestrogens-pct-weight-loss-v>