Positive effects of Neuromuscular Therapy on Morton's Neuroma: A Case Study

Purpose: This case study investigate the effect of neuromuscular therapy on a client complaining of a foot pain caused by Morton's Neuroma.

Participant: 69 year old female with a foot pain between 2nd and 3rd digits. Client was diagnosed for Morton's Neuroma by a MD based on her imaging.

Intervention: Client had 60 minute treatments once a week for 6 consecutive weeks.

Results: Client's pain was decreased significantly within 6 weeks of treatment.

Conclusion: Positive result of this case study highlights the importance of neuromuscular therapy as a conservative treatment approach before surgical options.

KEYWORDS: Morton's Neuroma, neuromuscular therapy

Introduction

Morton's neuroma is "an irritation of a small nerve called the common plantar digital nerve which provides the sensation to the webspace between the toes." It is most commonly seen between third and fourth digits, but not limited to that. There is no visual sign like lump for this condition, and common symptoms that experienced are "feeling as if you are standing on a pebble in your shoes, a burning pain in the ball of your foot that may radiate into your toes," and/or "tingling or numbness in your toes." Cause of the Morton's Neuroma is believed to be irritation, pressure, or injury to one of the nerve that lead to the toes. Diagnosis is done with direct palpation on the foot and further imaging including X-ray, ultrasound, and MRI.

Conservative treatment options recommended by MD today is very limited. Most common suggestions are to wear supported shoes like gym shoes, add a foot pad in their shoes, or to wear custom made insoles.

Where neuromuscular therapy differs from traditional massage therapy is that we do not only work with muscles and ligaments, but also with the nervous system. By using certain techniques, neuromuscular therapy allows aggravated nerve to calm down, or "turn off" the nerve signal that sends pain to our brain.

This case study investigates the application of neuromuscular therapy beneficial to a client with Morton's Neuroma who was suggested only surgical option by her doctor. This case study shows the manual treatment has more impact on decreasing pain than believed, and hopes to include neuromuscular therapy as a conservative treatment option recommendation.

Case Presentation

Participant Profile:

A 69 year old caucasian female, who worked in an office environment prior to her retirement. Client had a consistent pain in the ball of the foot area on her left foot for over a year. Pain was described as if she was walking on a pebble, and affected participant's daily activity to minimize her walking and standing. She reported her pain being worst at 7 out of 10, averaging 5 out of 10 using the Defense and Veterans Pain Scale. She visited an orthopedic surgeon in South Carolina and was diagnosed with Morton's Neuroma after imaging including X-ray and a MRI. Her surgeon suggested a surgery to resolve her pain.

Her nerve involvement was between her second and third digits, not at the ordinary Morton's Neuroma symptom of third and fourth digits. Her second toe was pushed towards her big toe crossing under due to the thickening of her tissue around her nerve. After initial diagnosis, client went through eight weeks of physical therapy until her health insurance coverage ended. There was no significant improvement in her pain.

Massage Therapy Intervention:

This study was performed by a licensed massage therapist with an experience of 1 year in massage school graduating with 750 hours and under 2 years in the field, undergoing a study of Precision Neuromuscular Therapy. All treatment was done in a therapeutic massage clinic in Evanston, IL.

Therapeutic Intervention:

Therapeutic approach on this case was once a week 60 minute neuromuscular therapy for 6 weeks. Each treatment started with spinal segmental sensitization in L1 through S3, followed by container shifting to release any micro entrapment of the peripheral nerve ending by soft tissue, finishing with petrissage, kinematics, and joint mobilization on sciatic nerve soft tissue line from hip to foot on her affected side. Initially, treatment was focused more on neuromobilization and general calming of her sciatic nerve into her tibial nerve. As the treatment progressed, focus of her treatment was shifted to more direct work by her affected area in her foot. Client was asked to answer her pain level of 1 to 10 based on Defense and Veterans Pain Scale, at her best, worst, and current pain at the time of treatment each week.

Results:

Initial Assessment and Treatment

Client reported the pain as a 5 out of 10 on the first day of pre-treatment, 7 out of 10 at her worst, and 0 out of 10 at best when she did not have her weight on her foot, for example, when sitting. Client described her pain was as "walking on pebbles" with consistent ache. After the

first treatment, participant reported her foot pain was decreased to 2 out of 10, and described her “foot feels normal for the first time in a while.”

Second Treatment to last and Assessment
Participant felt significant difference in her pain after her first treatment, returning for her second treatment with same pain level that she left with after the initial treatment (2/10 pain). Her pain was decreased to 0 out of 10 after the second treatment, leaving comment of “feels like my foot is alive again.”

Participant came back for her third treatment having pain of 0 out of 10, her worst being 3 out of 10 after taking a one mile walk and forty-five minutes of prolonged standing.

During her fourth treatment, the participant reported her pain being 1 out of 10 with longer distance walk she has been taking few times a week post third treatment, and by her fifth treatment, participant reported no pain with standing or walking over a one mile walk.

Discussion

Treatment was successful in meeting participant’s goal, by significantly decreasing pain in affected foot. The participant’s pain was improved after every treatment, despiste increase in her activity. Though, it does not prove a change in her increased tissue density near affected area, or curing the pain caused by Morton’s Neuroma.

In most case, patients are suggested steroid injection before proceeding to surgical options including decompression surgery or removal of the nerve. In this case, client was suggested a surgery without recommendation of other conservative approaches for none known reason. Most study shows single corticosteroid injection may offer short-term pain relief, and most participants only showed improvement in pain after nine months.

Massage therapy on metatarsal heads are sometimes recommended on early stage of Morton’s Neuroma. Though treatment above the foot region, especially the nerve line leading from medial plantar nerve and above, tibial nerve to sciatic nerve, lumbosacral plexus to L4-S3 nerve root is often ignored. This client had sensitivity in S2 region almost always, when performing spinal segmental sensitization in each treatment. The calming of her nerve had a great impact in decreasing her pain.

Neuromuscular therapy does not prove a cure or change in tissue of affected area. Though from this case study, it shows that it could be an alternative option in decreasing pain presenting sooner effect and less invasive than corticosteroid injection or surgical options. At the end of the sixth treatment, client shared that she would not be proceeding to surgery, due to improvement in her foot.

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