Migraine, can massage effectively manage symptoms?

A Case Study

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ABSTRACT

Background: Participant is a 62 year old female that presents migraine with associated aura and nausea for this study. Participant has suffered with migraine since she was 10 years old. Participant is determined disabled and qualifies for SSDI as a result of migraine. Associated conditions are neck pain that radiates to left upper back and low back pain that radiates to front of left thigh. The neck has a loss of cervical lordosis. Both the neck and low back have vertebral disc and foraminal issues which may have been exacerbated by a rear-end automobile accident about 4 years ago. Pharmaceutical medication is the primary method of controlling migraine.

Purpose: Object of this case study is to describe the affects therapeutic massage has on the participants symptoms and daily living impairments due to pain and associated conditions of migraine.

Research Design: A case study in a private school: The Center for Neurosomatic
Studies. Assessment and application of treatment was performed over a 5 week period with 9 sessions of 1 to 1½ hours each session. Common Swedish type massage and myo-fascial techniques were applied. Assessment and therapeutic massage was based in neuromuscular therapy. Massage and myo-fascial release techniques were applied to the head, face, jaw, neck, back, thigh and viscera. Progress measures utilized a numeric analog pain scale and The Pain Disability Questionnaire.

**Conclusion**: This case study provided an observation of the effectiveness of dural membrane and fascial release has on tonus tissue. It also observed how relevant trigger point therapy is in the pain pathway of migraine. The study also endured the effect emotional stress has in migraine. There is a lot of research regarding migraine but little in regards to the benefit regular massage may have for migrainnures. Additional research may be warranted in not only massage's effect on migraine but a lifestyle evaluation as well.

Key words: migraine disorders, aura, nausea, hemiplegic, familial, classic migraine, cervical migraine, massage

**INTRODUCTION**

Headache has been experienced by more than 90% of the population (1). Thirteen main categories have been established according to the International...
Classification of Headache Disorders (ICHD-II) (2). Migraine however is more than just another a headache. A migraine is a neurological disorder that is complex and disabling (3). As defined by the International Headache Society which adopted the ICHD-II, migraine is a headache that lasts for 4–72 hours and has at least two of these characteristics: unilateral localization, a pulsating quality, moderate to severe pain intensity and is aggravated by movement. (4). It also is usually accompanied by one of the following: nausea and/or vomiting, photophobia and/or phonophobia (4). Auras are experienced by some migraineurs that typically precedes the headache during the premonition or prodrome phase (4)(5). Aura can be experienced as a scintillating scotoma that moves across the field of vision (5)(6). Other symptoms of prodrome phase such as fatigue, gastrointestinal issues, and mood changes are frequent (5). As a result of these cascading events, migraine sufferers can be incapacitated for extended periods of time. Migraine is estimated to affect up to 25% of households (7).

Prevalence in population finds: 6–8% of men and 15–25% of women suffer from migraine (8). Children suffer with migraine ranging between 3% of the young up to 20% of adolescent ages (9). Lifetime incidence is 43% in women and 18% in men (10). Statistics show that when all headache types are compiled, the amount of disability they cause ranks them within the top 10 health concerns worldwide. (11) For decades, migraine pain was considered a vascular disorder due to vasodilation of cranial arteries (12). Wolff observed dilation of the superficial
temporal artery during migraine (13). Support of this theory finds vasodilation of cranial arteries on the affected side of the head: right, left or both during migraine attack (14). Regional cerebral blood flow is decreased in brain lobe regions in relation to migraine intensity (15). Blood perfusion and pulsation of affected facial area was asynchronized in migraine sufferers vs. controls due to dysfunction of autonomic vascular control (16).

This classic view of blood flow in the brain revolves around compounds and their metabolism, as well, that neural astrocytes play a role in cerebral circulation modulated via the sympathetic and parasympathetic action of the autonomic nervous system and their neuropeptides. (17).

However, the vascular theory is challenged in support of a more neural basis of migraine (12)(18)(19)(20). It may appear that vascular events alone are not necessary or sufficient to induce a migraine (18). In its place, the neurovascular model, which combines both neural and vascular contributions has gained general acceptance.

The neurovascular theory of migraine centers on activation of the trigeminovascular system (21)(22). This system consists of neurons in the trigeminal ganglion with afferents innervating the pial and dural meningeal vessels surrounding the brain and efferent projections synapsing neurons in the trigeminal nucleus caudalis in the brainstem. (23)(24). Trigeminal ganglion provides sensory fibers for all anterior cranial tissues, the trigeminal nerve has
three divisions with the ophthalmic division the predominate role in migraine (22). The trigeminal ganglion provides afferent innervation to the meninges including the dura mater and intracerebral arteries (22). Sensory trigeminal fibers project primarily to the caudate nucleus that extends from the medullary dorsal horn to the first two cervical segments of the spinal dorsal horn (22). Innervation from the sphenopalatine ganglia has also been implicated in the neurovascular model of migraine (25). This ganglion provides parasympathetic nerves involved in autonomic control of cranial vessel tone. (26). Some studies have suggested trigger sites in the brainstem could activate the trigeminovascular system (22), or that pain is perceived due to defective central processing (27)(28). While these studies suggest the brainstem plays a role in migraine, the mechanisms are not yet clear. Vascular pathways of migraine are measurable and well documented (29). Neurological pathways in migraine are attributed to trigeminal nerve activation and substances released from the trigeminovascular system (30). Migraine is a very complex disorder with a variety of triggers and phenomena occurring throughout the central nervous system and intracranial structures. As prevalent as migraine is throughout society and whether vascular, neurological, mitochondrial, hormonal, genetic or another pathophysiological pathway can be observed, research has not shown a cause (29). Interesting to note that women suffer migraine at a 3 to 1 ratio to men implicating hormonal contribution (31). Various stages of a woman's life revolve around hormone production and its regulation
throughout the body, studies are mixed as to whether the menstrual, perimenopause, menopause or post menopause hormonal fluctuations contribute greatly to migraine (32). It has been shown that hormone levels are important in migraine sufferers and manipulation of hormones can be effective in treating migraine (33). However caution must be used in manipulating hormone levels in women suffering from migraine whether with or without aura (34).

Triggers for migraine are many and varied. In two studies migraine sufferers listed triggering events or conditions with an overwhelming trigger due to stress, but more so implicating was the contribution due to emotional stress (35) (36).

Predominant treatment(s) or management of migraine include prophylactic medications aimed at reducing or preventing the frequency of attack, attack-aborting medication that attempt to relieve the severity and duration of attack and general pain management avenues through the use of narcotic medications that act on pain perception via the central nervous system or NSAIDS that act to inhibit blood vessel inflammation or simple analgesics that act on peripheral pain receptors thereby relieving mild pain (37). Associated side effects can include but are not limited to addiction, gastro-intestinal disturbance, and rebound (requirement of stronger or higher dose) (38).

Complimentary therapies that have shown (to various degrees) to be effective for migraine in its varied forms and include aerobic exercise, acupuncture,
biofeedback, forms of relaxation training, cognitive therapies, nutritional approach that include food combinations, vitamin/mineral and herbal supplementation (39)(40)(41). Massage has been shown to effective in reducing pain and eliciting a positive affect on sleep, relaxation, emotional well-being and the healing process (42). Massage of the superficial temporal artery reduced the onset of pain when applied during aural phase of migraine (44). Clenching or bruxism of the teeth and the mandibular musculature is related to migraine headache (45). Neurovascular structures of the head, face and neck can be compressed or entrapped by tight musculature (46). Headache pain can be elicited during palpation examination of cervical musculature most notably at the occiput, atlas, axis and 3rd cervical vertebra and that noxious trigeminal afferent information of the trigeminocervical nucleus is underestimated in headache pain sufferers including those with migraine (47). Low back pain has been shown to be recurrent in migraine sufferers, and that it not only involves the trigeminal pain pathway, but is also part of abnormal general pain processing (48).

This case report will apply to determine if massage therapy is an effective form of treatment to reduce or eliminate head pain due to migraine and its associated symptoms in a 62 year old female.

METHODS
Client Profile

A 62 year old female sought neuromuscular massage therapy for relief of migraine. She currently uses medication(s) to control migraine pain and associated symptoms. Client indicates she is disabled (SSDI) as result of migraine. She indicates she has suffered from migraine since she was 10 years old and that there is familial history of migraine to include maternal parent, female siblings, 3 daughters and 1 grandson.

Client said she remembers being hit in the head with a swing when she was 10 years old and suffered a concussion. A recent event that could complicate symptoms is a vehicular accident about 4 years ago where client was rear-ended. The impact caused whiplash type movement of the body.

Review of two MRI's report dated 05/07/2009 in relation to the vehicular accident indicates for cervical a slight reversal of the cervical curvature centered at C5 likely due to positioning or muscle spasm. Mild congenital stenosis with exacerbation at levels of disc protrusions at C3-4, C4-5 and C5-6. Protrusion at C3-4 indents the thecal sac; C4-5, C5-6 indents the thecal sac and touches the ventral chord. There is no acute fracture or compression deformity. The lumbar indicates levels of L1-2 of mild dessication of disc but no bulge or protrusion; L2-3 dessicated disc with left posterolateral protrusion results in left neural foraminal narrowing; L3-4 disc dessication with a left eccentric bulge with minimal canal
stenosis and left neural foraminal narrowing; L4-5 disc dessication and central protrusion that indents the thecal sac and mild bi-lateral facet and ligamentum flavum hypertrophy and mild to moderate canal stenosis and mild narrowing bilaterally of neural foramina. L5-S1 disc desiccation with slight bulge slightly indents the thecal sac, canal and foraminal narrowing is mild.

The impact the accident had relative to migraine is unclear except that the client indicated she suffered more frequent migraine episodes.

Additional medical records provided: 12/16/2009 patient admitted to hospital as outpatient for neck pain and received Mercaine solution injection on right facet joint at C3-4, C4-5, C5-6 and right and left facet joint C6-7; 5/14/2005 indicate headache, nausea, vomiting and a list of medications prescribed; 3/04/2006-migraine today with vomiting and photophobia and medications prescribed; 8/13/2012- migraines daily, pain in legs, trouble sleeping and current medications and plan with additional medications; 11/19/2012- migraines daily, hypercholesterolemia, anti-depressant medication disuse due side effects and plan to change medications and add another; 8/03/2012- migraine, hypercholesterolemia, plan is to discontinue use of a medication and request for thyroid test; 4/01/2013 migraine daily, pain in hands, burning and numbness into left thigh and that office/computer work aggravates her headache with plan for Vit. D and calcium, bone density test, new medication.
The client currently uses medications to manage migraine with a 3 tier approach depending on symptom severity and time of day for specific medication use.

Prescribed medications also address sleep, depression, allergy, nausea, cholesterol levels with more than six prescriptions at a given time. Symptom frequency ranges from daily to a couple times during the week. A few times a year it is debilitating with shaking, violent vomiting and feels as if nearing shock. She no longer suffers hormonal migraine. Allergy sometimes triggers episode, she has learned what food or drink may also be a trigger and refrains. She also indicated that abrupt, jarring, bouncing movement can trigger or aggravate conditions. She also emphasized that emotional stress a concomitant contributor to migraine.

She describes migraine predominately on the left side of head, face and neck with it most often at left front forehead around the eye with pain as if a nail is being driven from bridge of the nose to the temple.

Client has received some reflexology in the past with limited success. Massage is being considered by referral from a friend. She feels that healing may achieve 70%, she is willing to put forth a 10 effort out of 10 scale and records her current stress level as a 4 out of 10.

**Treatment Plan**

For this case report there were 9 total treatment sessions. 5 treatment sessions of 1
hour and 4 treatment sessions of 1 ½ hours (includes postural assessment and interview) were spaced over a 5 week period. This allowed a session every 3-4 days. Progress was recorded by the client using a twice daily numeric analog pain scale NAS, one in the A.M., and the other in the P.M. (appendix) and a pain disability questionnaire PDQ (appendix) before each session. Postural measurement were charted and assessed as well as a client interview at each session. Both the NPS and PDQ were used at a 5 day follow-up post treatment session(s). The NPS recorded 3 different pain regions: migraine pain and any aura or nausea association; neck pain and any radiculopathy; low back pain and any radiculopathy. PDQ asks 15 questions about your view of how pain affects function in everyday activities with a rating scale between (0) does not affect to (10) has greatest affect. Postural measurements of reliable bony landmarks are charted and assessed for asymmetries (49).

Treatment sessions utilize dural tube mobilization*, myo-fascial (TrP) release*, various Swedish massage strokes: gliding, kneading, compressions, compression with opposition, cross and with fiber friction, wringing, and pin and stretch. Depth and direction of pressure, excursion, speed, rhythm and continuity, frequency, duration and sequence were considered at each treatment and varied dependent on tissue response. Lubricant was used in gliding and cross-friction strokes. Fascial release utilize skin rolling, spreading, radial, j-strokes and lubricant free glides as allowed by the fascial layers (53). Client feedback was very important in this
case, long standing tissue integrity was observed and sensitivity was communicated and respected. Visceral work was also employed (50). Tapotement and vibrational techniques were not used due their stimulating/excitation effects especially for this migrainnure.

- *Dural tube mobilization attempts to encourage relaxation of the dura connective tissue membrane within the spinal column and cranium. Mobilization also encourage cerebral spinal fluid (CSF) flow and relief of neural structures that traverse cranial and spinal structures. In this the client is supine, therapist is at head of table and in compression phase therapist hands are place at top of head, hand heels are together and press the head inferiorly; the de-compression phase requires the therapist to hook the fingers of both hands under the nuchal line of the occiput and pull the head superiorly. The movement is a rhythmic compression then de-compression multiple times (51).

- *Myo-fascial trigger point (TrP) release utilizing static compression of nodule was also used (52)

Rationale for treatment at each session was based on the client interview, recordings of numeric pain scale, disability questionnaire and postural assessment.

The first session established our baseline and records: NAS for migraine pain
2/10, aura/nausea 6/10; neck pain 4/10, radiate pain 0/10; low back pain 1/10, radiate down left front thigh 3/10. PDQ 76/150

Interview records migraine almost daily, neck pain and radiate down left arm into hand, low back pain and radiate to left thigh, urination is difficult (actually must think about it to keep flow), bowel movements are good about twice per day, digestion is fine, hearing is okay but left ear is sensitive, eyes/vision wears glasses (not astigmatism).

Postural assessment records asymmetries at levels of head, shoulder girdle, pelvis and cranial bones.

Palpation found cranial fascia adhered to calvaria and tender to touch, neck and shoulder girdle musculature with very tight. Treatment centered around release of epicranial fascia, left auricular muscle and fascia and platysma. The right and left temporalis and masseter muscles and sub-occipital muscle(s) were treated with light glides and cross friction strokes. Trigger points in sub-occipital muscles referred over the top of the ears bi-laterally. The left rectus capitus major referred into the left eye. TrP's were not effectively released. Treatment session opened and closed with dural tube mobilization.

Second session records 3 sets of NAS pain: migraine 1-2/10, aura/nausea 0-1/10; neck 2-4/10, radiate 0-1/10; low back 1-2/10, radiate 0-1/10 down left front thigh. PDQ records 55/150.
Postural assessment revealed asymmetries at levels of head, shoulder girdle and pelvis. Supine assessment records a change in distortion indicating organ (49)(51). Cranial asymmetries were less than the first session. Client indicated she did not have to use medication today so it is a good day, back and neck pain have been low.

Palpation continues to find epicranial fascia adhered to the calvaria especially at the occipital bone. Palpation of the abdominal cavity finds some tightness and discomfort at the stomach/esophagus, duodenum, cecum/ascending colon and ileocecal valve. Treatment began with dural tube mobilization. Epicranial fascia was released, bilateral temporalis muscle were released but noted especially tight tendon at the left mandibular coronoid process. Mobilization of the frontal and sphenoid bones were performed. Bilateral sub-occipital muscles were treated. Trigger point referral to left temporal area from left obliquus capitus superior; (TrP) released. Noted (TrP) referral path from left posterior neck over the head to temporal area and the left eye similar to migraine pain pathway. Visceral treatment included stomach at the cardiac notch, duodenum, small intestine around the umbilicus, ileocecal and ascending large intestine. Treatment ended with dural tube mobilization.

Third session records 4 sets of NAS pain: migraine at 1-5/10, aura/nausea at 0-2/10; neck 2-4/10, radiate 1/10 down into back; low back 0-2/10, radiate 0-2/10.
down front of left thigh. PDQ records 53/150.

Postural assessment records less asymmetry at levels of head, shoulder girdle and pelvis. Supine assessment records a similar distortion as standing. Cranial asymmetries were not observed. Client indicated that left and right rotation of the head was limited or tight. Head pain has been lessened excepting one day she had to use all medications plus one additional.

Palpation finds posterior cervical musculature tight. Treatment began with dural tube mobilization then treatment of suboccipital muscles, upper and middle trapezius, superficial paraspinals. (TrP) referral were released with compression at left and right rectus capitus major to right and left temporal areas and from right and left middle trapezius to shoulder. Treatment closed with dural tube mobilization, noted movement becoming much easier, client notes a relaxation effect.

Fourth session records 3 sets of NAS pain: migraine 1-3/10, aura/nausea 1-5/10 2 records of 5/10 aura without head pain; neck 2-6/10, radiate 1-3/10 down left spine; low back 0-2/10, radiate 0-1/10 down front of left thigh. PDQ records 62/150.

Postural assessment records asymmetry at levels of head, shoulder girdle and pelvis. A right tilted pelvis and high right ASIS flexion is recorded. Cranial distortions are not observed. Client indicates left neck to back feels like toothache
or pulled muscle all the time, not reliant on movement or usage; neck is grinding like Rice Krispies and burns.

Palpation finds tight temporalis and posterior cervical musculature. Treatment of right and left temporalis relieves some tension, bi-lateral upper and mid trapezius, cervical para-spinals, left levator scapulae, erector spinae, left iliocostalis lumborum and erector spinae, right quadratus lumborum and right quadriceps. (TrP) referral from left upper trapezius to the left temporal area was released. Client noted referral pain similar to migraine pain pathway. Treatment ended with dural tube mobilization.

Fifth session records 4 sets of NAS pain: migraine 1-5/10, aura/nausea 0-5/10; neck 1-2/10, radiate 0-2/10 down left side of back; low back 1-4/10, radiate 0-1/10 down right side of thigh. PDQ records 48/150.

Postural assessment records few asymmetries at levels of head, shoulder girdle and pelvis. Cranial distortions are not observed. Client indicates these were good days except for the emotional stress followed by the migraine and that she has had to learn how to pace her life based on migraine. Currently has a bit of an aura. Palpation finds tight cranial fascia and sub-occipital. Treatment opened with dural tube mobilization, epi-cranial fascia release, bi-lateral temporalis muscles, sub-occipitals, anterior superficial cervical and bi-lateral longus colli were released. Treatment ended with dural tube mobilization and noted release to level between
the scapula.

Sixth session records 3 sets of NAS pain: migraine 1-3/10, aura/nausea 1-3/10; neck 2-4/10, radiate 1-4/10 down left upper back; low back 0-1/10, radiate 0-1/10 down front of left thigh. PDQ 59/150.

Postural assessment records few asymmetries at levels of head, shoulder girdle and pelvis. Cranial distortion limited to temporal bone. Client indicated that day of migraine she awoke with it and that aura was strong and that ocular migraine with wavy lines. Palpation finds posterior cervical musculature tight. Treatment opens with dural tube mobilization, suboccipital muscles, bilateral upper trapezius, posterior paraspinals, attachments along the inferior and superior nuchal line were very tender but treated, supra hyoids and styloid muscles were treated. Right and left eye extraocular muscles were treated and finds all 6 of left eye very tight and tender (did not release), left finds 2 muscles tight but released with treatment. (TrP) referral from right upper trapezius was released.

Seventh session records 4 sets of NAS pain: migraine 2-4/10, aura/nausea 0-3/10; neck: 1-3/10, radiate 0-4/10 down left upper back; low back 0/10, radiate 0/10. PDQ 59/150.

Postural assessment records asymmetry at levels of head and shoulder girdle.

Cranial distortion is not observed. Client indicates on down side of aura but is present, migraine is stress/emotion connection and started after lengthy discussion
with 2 family members, neck is stiff. Palpation finds tight posterior cervical musculature. Treatment began with dural tube mobilization, right and left eye-extraocular muscles treated with release in right eye and left eye muscle much more pliable than previous session but did not release fully. Left sternocleidomastoid, bilateral longus colli, left upper and middle trapezius, posterior cervical, torso and lumbar paraspinals and left levator scapulae were released. (TrP)s from left longus colli refer to left ear, left upper trapezius refer to head posterior to left ear were released.

Note: a week elapsed between the seventh and eighth sessions due to bed rest due to bronchitis and sinus infection. Prednisone and Z-pacs were administered.

Eighth session records 2 sets of NAS pain: migraine 0/10, aura/nausea 0/10; neck 1-2/10, radiate 0-1/10 down left upper back; low back 0-1/10, radiate 0-1/10. PDQ 59/150.

Postural assessment records slight asymmetry at levels of the head and shoulder girdle. Cranial distortion observed at temporal and front bone. Client indicates no real pain in particular but neck is irritated and I may find some tightness and that emotional stress may be trigger as there had been lengthy discussion with a family member. Palpation finds trapezius and posterior cervical musculature extremely tight. Treatment began with dural tube mobilization, bilateral temporalis, bilateral sternocleidomastoid (SCM), left middle and posterior scalene, suboccipitals,
muscular attachments at superior and inferior nuchal lines of the occiput. (TrP) referral mostly to left side of head posterior to temporal area and over the top to forehead above left eye from left SCM temporalis, left upper trapezius, left sub-occipitals and left nuchal line attachment muscles. Right rectus capitus major referred to right forehead area. All (TrP)s released. Treatment closed with dural tube mobilization.

Ninth (final) session records 2 sets of NAS pain: migraine 0-1/10, aura/nausea 0-2/10; neck 1-2/10, radiate 0/10; low back 0/10, radiate 0/10. PDQ 60/150.

Postural assessment recorded a slight asymmetry at levels of head and shoulder girdle. Cranial distortion is not observed. Atlas was tilted inferior right. Client indicated a stiff neck, no head pain but had aura today with floaters and feels disassociated. Treatment opens with dural tube mobilization (client feels this in the head), cervical mobilization (anterior/posterior) noted tension C1 on right, C2-3 on left, C4-7 centered, segment release at C3-4 during mobilization, release greater and lesser omentum, treatment of stomach at cardiac notch, small intestine at umbilicus, duodenum and ileocecal area,

Follow-up 4 days after final session records 4 sets of NAS pain: migraine 1-3/10, aura/nausea 0-1/10; neck 0-2/10, radiate 0-1/10 down left upper back; low back 0/10, radiate 0/10. PDQ 55/150.
Assessment Measurements

Numeric Analog Pain Scale (NPS)(54)(appendix) and the Pain Disability Questionnaire (PDQ)(55)(appendix) are common assessment tools used in the field of research to clinically measure client or patient progress. Postural charting is a tool used regularly by neurosomatic massage therapists (NST) for assessing client postural distortion and progress(49)(appendix).

NPS for pain comprises a 0-10 numeric scale on which people can indicate pain level by placing their mark at a given number. No pain is a 0 level and the greatest amount of pain is a 10 level. NPS is a simple and often used tool for measuring intensity of pain (Figure 1).

PDQ was developed for assessing a full array of chronic disabling disorders that affect an individual on short term or long term basis with consideration of psychosocial variables (55). PDQ yields a total functional disability score ranging from 0 to 150. PDQ questions: 1. Does your pain interfere with your normal work inside and outside the home? 2. Does your pain interfere with personal care (such as washing, dressing, etc.? 3. Does pain interfere with traveling? 4. Does your pain affect your ability to sit or stand? 5. Does your pain affect your ability to lift overhead, grasp objects or reach for things? 6. Does your pain affect your ability to lift objects off the floor, bend, stoop or squat? 7. Does your pain affect your ability to walk or run? 8. Has your income declined since your pain began? 9 Do
you have to take pain medications everyday to control your pain? 10. Does your pain force you to see your doctors much more often than before your pain began? 11. Does your pain interfere with your ability to see people who are important to you as much as you would like? 12. Does your pain interfere with recreational activities and hobbies that are important to you? 13. Do you need help of your family or friends to complete everyday tasks (including both work outside the home and housework) because of your pain? 14. Do you feel more depressed, tense or anxious than before your pain began? 15. Are there emotional problems caused by your pain that interfere with your family, social and or work activities? (Figure 2)

NST postural measurement records reliable bony landmarks of the body on a chart. Planes of measure are sagittal, coronal and transverse in standing, sitting and supine position. Measures are inferior to superior, anterior to posterior, oblique and flexion to extension positions of bony landmarks.

RESULTS

Numeric Analog Pain Scale (NPS)(54) pain scores for migraine varied from session to session, with emotional stress factors contributing to between session migraine on 3 occasions. Recorded pain ranges from high to low: migraine 5/10 to 0/10, aura/nausea 6/10 to 0/10; neck 4/10 to 0/10, radiate 4/10 to 0/10; low back 4/10 to 0/10, radiate 2/10 to 0/10.
Pain Disability Questionnaire (PDQ) score showed improvement. The highest possible score is 150. A before session score recorded at the first session was 76/150. High to low range was 76/150 to 48/150. Note on the PDQ questionnaire 30 of the recorded score attribute to: unable to work at all, 10; lost all income, 10; on medication throughout the day (days of migraine), 10.

DISCUSSION

This case report suggests that massage therapy can be an effective treatment to reduce frequency and severity of migraine head pain and its associated symptoms. The prevalence of migraines in society is substantial and the use of medication(s) as a controlling mechanism predominates (3)(38). During the study the participant did resort to use of several medications to address migraine as she has been for many years. Participant’s use of medication aims to prevent the escalation of migraine when symptoms begin or to abort the duration. Participant is disabled (on SSDI) as a result of migraine. Migraine is a family affair in that...
her mother suffered migraine, participant has suffered migraine since she was 10, female siblings, 3 daughters and 1 grandson suffer migraine. The participant presented 3 conditions even though migraine relief was the focus of the study; neck and low back pain were also assessed and treated. Both neck and low back pain can be affiliated with migraine(46)(47)(48).

It also was not known to what degree an automobile accident 4 years ago contributed to or exacerbated migraine, though whiplash effect was suffered by the participant. Nor is it known in review of cervical and lumbar MRI reports and findings that loss of cervical curve or desiccated disc or bulging discs and its impact on the thecal sac and chord were contributing to migraine. This because migraine has been suffered for 50 years.

The participants pain symptoms improved across the board with the most substantial improvement between the first and second sessions. These sessions removed fascial restriction around the head and face. What was interesting to note was the tenderness these restrictions imposed in releasing them but once released the tenderness subsided. Dural membrane mobilization was a pleasant experience for the participant, and on one occasion she had replied she can feel it in her head; membrane relaxation and mobilization of cerebral spinal fluid made this method an every session mobilization treatment. Another condition that made this study interesting was trigger point referral patterns. In four of the sessions while finding
and treating trigger points the participant stated that that is the same pain pathway as her migraine. Especially interesting to note a referral and migraine pathway to the frontal bone that was impacted by a swing when she was 10 and into the left eye. All 6 extra-ocular muscles were very tender to touch and took 2 sessions to release.

Emotion and emotional stress played its part in pain. On 3 sessions that recorded highest pain levels emotional upsets the day before migraine were indicated by the participant who in one session said, "I know you are going to feel tightness and tension in my neck and shoulders as I have been having a very stressful conversation with a family member."

This study was limited to massage intervention as the only change in daily protocol for the participant it appears that progress was made in relieving pain and discomfort presented. The participant enjoyed the sessions even though there was discomfort in removing noxious stimuli. She had written, stating: “The sessions seem to have lessened the frequency and severity of headaches and to some degree, neck issues. Also seems to have lessened nerve burning in the thigh.”

CONCLUSION

Though there was some success in this study in relieving pain and symptom of migraine, limiting the study to one individual, one intervention (massage), limited
number and frequency of sessions wants for more. Possibly the availability to intervene at the prodromal phase could elicit enough relaxation of the trigemino-vascular system to prevent escalation to other phases of aura, headache or postdromal.

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