Barral Institute Case Study
Neural Manipulation – Headaches/Vertigo/Anxiety/ Cervical Pain

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Abstract/ Summary: A case study of a 43-year-old female suffering with headaches, vertigo, cervical pain, anxiety after a long history of sinus infections, allergies and mold exposure. Her symptoms improved with treatment of cranial dura, cranial nerves, intracranial induction techniques, and neural manipulation techniques.

Key words: neural manipulation, cranial nerves, dura, vertigo, headaches, anxiety.

Diagnosis: Vertigo, Headaches, Cervical & Facial Pain 43 y.o. female **Date:** 11/21/2017

History: She began having vertigo in June 2017 after going for a run and stretching, while she was coming down with a sinus infection at same time. Symptoms didn't resolve with antibiotics and prednisone. Sinus surgery was in July she had cysts removed, corrected deviated septum and turbinate's reduced. Since surgery she had more headaches, continued vertigo, stiffness and pain in neck and face, nausea and anxiety. Her menstrual cycle is 9 days shorter and she has lost significant hair. She has only slept elevated on 2 pillows since surgery. She complained of her bite feeling off and increased left eye pressure as well. She took a medical leave to come to be treated and her house is being remediated for mold. She had 6 visits of PT for vertigo with no significant changes in symptoms.
Past medical history includes melanoma removed off scalp 2016, chronic sinus infections for more than 20 years, C---section 2003, insomnia, R parotid gland removed in 2004. Medications include Trazadone for sleep, herbal supplements to boost immune system and kill systemic mold, on an anti mold and autoimmune diet. Aggravating factors include rolling onto side, turning head quickly, getting up fast from sitting, bending head down. Alleviated by not moving, rest, Vertigo ex's.

Objective Assessment: revealed 43y.o. female underweight
Posture B protracted shoulder complex L>R, FHP, guarded with all movements
Anxiety 10/10, Nausea 9/10, Headache 8/10, Neck & Face Pain 8/10, Vertigo daily
General Listening: Cranial Manual Thermal: Cranial left>right
Pre Treatment pain in neck, face, and head 8/10.
Cervical AROM flexion = 50° Ext=48° R Rotation=40°L=45°.
Standing Functional UE NTT: R=30° and L=45°.
Trunk flexion 25% provokes head/neck pain.
Standing Thoracic/Lumbar Rotation R=0% L=0%.
Extension Slump Dural tension test R=---80° L=---75°
Palpation revealed restrictions in cervical fascia, cranial fascia, scalp, upper thorax.

Procedure/Treatments: Patient flew in from out of town to be treated in a 2-week window. She was seen every other day for 6 sessions. She was seen for one initial evaluation and treatment session that lasted 75 minutes, four follow ups for 60 minutes each, and one 40-minute session.

1st Treatment: Session included techniques for release of L tentorium cerebelli with eye tracking and neural glides, Induction into Falx, trigeminal ganglion L, Craniofacial suture, Superior orbital fissure L>R, L jugular foramen, L vagus nerve at VSOTN, scalp release with focus on emissary veins on L, R C2/C3 side glide to L with induction, Common carotid artery with L ophthalmic, and balanced CSR after.
Post 1st Treatment: pain in neck and head 5/10.

Cervical AROM flexion = 60° Ext= 65° R Rotation=55°L=60°.
Standing Functional UE NTT: R=130° and L=140°.
Standing Thoracic/Lumbar Rotation R=50% L=50%.
Extension Slump Dural tension test R=---45° L=---35°.
Trunk flexion 30% still provokes head/neck pain. Palpation revealed improved mobility in cervical fascia, cranial fascia, and scalp.

2nd visit:
General Listening: Cranial Manual Thermal: Cranial left>right
Pre Treatment pain in neck and head 6/10. Trunk flexion 30% provokes head/neck pain.
Cervical AROM flexion = 55° Ext=50° R Rotation=50°L=55°.
Standing Functional UE NTT: R=120° and L=110°.
Standing Thoracic/Lumbar Rotation R=30% L=20%.
Extension Slump Dural tension test R=---50° L=---40°
Palpation revealed restrictions in R cervical fascia, L cranial fascia.
Treatment: included techniques for release of L tentorium cerebelli with eye tracking and neural glides, Induction into Falx, trigeminal ganglion L, Craniofacial suture, VSOTN B release , L C1 side glide to R and A/P and C2/3 L glide with induction, Internal carotid artery with L ophthalmic, sitting foramen magnum release for Left vascular structures and R neural, and balanced CSR after.
Post 2nd Treatment: pain in neck and head 4/10.
Cervical AROM flexion = 65° Ext= 71°
Standing Functional UE NTT: R=180° and L=180°.
Standing Thoracic/Lumbar Rotation R=60% L=60%.
Trunk flexion 35% still provokes head/neck pain.
Extension Slump Dural tension test R=-35° L=-25°
Palpation revealed improved mobility in cervical fascia, cranial fascia, and scalp.

3rd visit:
General Listening: Left pelvis Manual Thermal: Left pelvis
Pre Treatment pain in neck and head 5/10. Anxiety and Vertigo both still 8/10.
Cervical AROM flexion = 65° Ext=70°
Standing Functional UE NTT: R=180° and L=180°.
Standing Thoracic/Lumbar Rotation R=50% L=60%.
Extension Slump Dural tension test R=---35° L=---25°
Trunk flexion 35% provokes head/neck pain.
Palpation revealed restrictions in endopelvic fascia
Treatment: Fascial release to left endopelvic region, broad ligament, pubovesicle, retrovesicle pouch, motility to balance uterus and bladder together, Fascial release to retroperitoneal fascia off common iliac and left internal iliac to uterine vessels. Local listening pulled to abdominal aorta to left gastric and splenic artery and techniques to release fascial tension and improve perfusion were done. Then treated Dura in SL from occiput to sacrum and balanced CSR after.
Post 3rd Treatment: pain in neck and head 3/10.
Cervical AROM flexion = 70° Ext= 74°
Standing Functional UE NTT: R=180° and L=180°.
Standing Thoracic/Lumbar Rotation R=65% L=80%.
Extension Slump Dural tension test R=---25° L=---15°.
Trunk flexion 60% still provokes head/neck pain.
Palpation revealed improved mobility in endopelvic fascia.

4th visit: C/O vertigo and unable to lye on either side. Shorter 40minute session due to vertigo limiting treatment tolerance.
General Listening: Cranial
Treatment: Induction into Falx, Facial nerve technique to L then R, Induction into direction of vestibulochoclear nerve in neutral, in L rotation until vertigo stopped and then R rotation until vertigo stopped. Induction into encephalon B parietal and temporal regions with breath and expansion until listening resolved.
Post Treatment: able to Lye on either side without vertigo exacerbation

5th visit:
General Listening: Cranial
Manual Thermal: Cranial left>right
Pre Treatment pain in neck and head 5/10.
Cervical AROM flexion = 55° Ext=50° R Rotation=60°L=62°.
Standing Functional UE NTT: R=180° and L=180°.
Standing Thoracic/Lumbar Rotation R=65% L=75%.
Trunk flexion 50% provokes head/neck pain.
Extension Slump Dural tension test R=-35° L=-20°
Palpation revealed restrictions in R cervical fascia, L cranial fascia.
Treatment: included techniques for release of L tentorium cerebelli with eye tracking and neural glides, Induction into Falx, trigeminal ganglion L, L trigeminal ganglion link with supraorbital, supratrochlear nerve, infratrochlear, L optic nerve. Superior orbital fissure L>R, Internal carotid artery with L ophthalmic artery, L>R optic nerve, B olfactory nerve intranasal with Q---tip with induction at falx and link with cranial aspect of olfactory nerves and balanced CSR after.
Post 5th Treatment: pain in neck and head 1/10.
Cervical AROM flexion = 65° Ext= 71°
Standing Functional UE NTT: R=180° and L=180°.
Standing Thoracic/Lumbar Rotation R=90% L=95%.
Extension Slump Dural tension test R=---25° L=---15°.
Trunk flexion 70% still provokes head/neck pain.
Palpation revealed improved mobility in cervical fascia, cranial fascia, and scalp.

6th visit:
General Listening: Cranial
Manual Thermal: Cranial left>right
Pre Treatment pain in neck and head 1/10.
Cervical AROM flexion = 70° Ext=70° R Rotation=65°L=62°.
Standing Functional UE NTT: R=180° and L=180°.
Standing Thoracic/Lumbar Rotation R=80% L=85%.
Extension Slump Dural tension test R=---25° L=---15°.
Trunk flexion 70% provokes head/neck pain.
Treatment: included techniques for release of L tentorium cerebelli with eye tracking and neural glides, Induction into Falx, trigeminal ganglion L, L C1 side glide to R and A/P and C2/3 L glide with induction, brachial plexus nerve buds at C7---T1 linked with brachial plexus at supraclavicular region. Induction into ease on L C3---7 facet and discs and scalene release. Internal carotid artery with L ophthalmic artery, L>R optic nerve, B olfactory nerve intranasal with Q---tip with induction at falx and link with cranial aspect of olfactory nerves and balanced CSR after.

Post 6th Treatment: pain in neck, face, and head 0/10. Anxiety 0/10, nausea 3/10, able to sleep flat on 1 pillow and on her left and right sides, bite feels equal again and eye pressure feels resolved and equal bilateral.
Cervical AROM flexion = 75° Ext=78° R Rotation=70°L=68°.
Standing Functional UE NTT: R=180° and L=180°.
Standing Thoracic/Lumbar Rotation R=95% L=95%.
Extension Slump Dural tension test R=---10° L=---10°.
Trunk flexion 80% still provokes head/neck pain.
Palpation revealed improved mobility in cervical fascia, cranial fascia, and scalp.

4 week follow up phone consult and she reported pain= 2/10, nausea= 4/10, anxiety=0/10, neck stiffness= 2/10, fatigue= 6/10, and vertigo= 7/10. She is still going to weekly PT visits for vertigo and they diagnosed BPPV with an unusual canal displacement.

Discussion: Findings indicate possible neural tension in cranial dura, cranial nerves, cranial sutures, scalp fascia, and cranial vascular system contributing to headaches, pain, vertigo, stiffness, nausea, anxiety and decreased functional status. Significant decrease in anxiety occurred after the two treatments to the olfactory nerve indicating possible direct connection between it and the limbic system since the olfactory nerve bypasses the thalamus relay centers. Also due to time constraints of patient being treated while in town she was treated for 6 visits in 13 days. Her response was favorable indicating that patients may tolerate more treatments closer together than originally thought.

Conclusion and Recommendations: Further assessment of the relationship of dural tension and cranial nerve irritation causing vertigo, headaches, anxiety, nausea, and facial pain needs to be further studied. These areas would not be found without the guide of general and local listening.

Treating Therapist: Veronika Campbell, PT, MPT, CSCS, NSC

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