Introduction:

• Rear end collisions, where a vehicle is hit from behind, are a common cause of whiplash injury.
• Previous research has shown that the most common symptoms in the acute phase following collision were neck pain (88%-100%) and headache (56%-66%). [1]
• Patients who experience chronic whiplash report persistent head and neck pain accompanied by decreased ability to work, decreased quality of life, and increased anxiety and depression compared to the general population. [2]

Patient Presentation

• 24 year old female, with a PMHx of a motor vehicle accident in 2010, presents complaining of headaches, neck and upper back pain and hip and left knee pain for 6 years.
• Patient underwent 2 years of physical therapy following the accident, with moderate improvement to low back and hip pain but minimal improvement to the headache, neck and upper back complaints.
• Patient reports having 2-3 headaches per week, with NSAID use as the only relief. She uses Ibuprofen 200 mg PO approximately 2-4 times weekly.

Purpose/Objectives:

• Physical therapy and pharmacologic (NSAID) treatment of this patient’s headaches have failed to improve frequency and severity of headaches.
• Previous studies [3] have shown OMT to successfully improve quality of life and reduce symptoms in both acute and chronic manifestations of whiplash injury.
• This study seeks to validate previous studies by determining if treatment with OMT can reduce somatic symptoms of chronic headaches and improve measures of quality of life in this patient.
• This study also seeks to expand upon previous studies by determining if treatment with OMT can decrease the number and severity of headaches in addition to NSAID use.

Methods:

• Subjective Outcome Measures
  - Headache log: Patient recorded frequency of headaches, duration of headaches, NSAID use to relieve headaches, and pain level associated with headaches for 8 weeks before and 8 weeks after the initiation of OMT treatment.
  - SF-36 generic quality of life assessment was performed before and after OMT treatment.
  - Patient filled out a management satisfaction questionnaire.
  - Patient subjectively reported pain levels before and after osteopathic treatments.

Results:

• Initial osteopathic assessment: cervicogenic headaches, myalgia, thoracic spinal enthesopathy, AP scoliosis, decreased primary respiratory mechanism (PRM), and moderate to severe somatic dysfunctions (see Table 1).
• Final osteopathic assessment: milder thoracic spine enthesopathy and softer extension, shoulders less protracted, improved PRM, mild to moderate somatic dysfunction.

• The patient was evaluated and treated with 4 sessions of OMT over 2 months.
• Treatments performed were based upon findings during the osteopathic assessment and were conducted at the practitioner’s discretion. (Table 1)
• As part of her plan, patient was also prescribed a brief, but frequent home stretching exercise regimen; 10,000 steps daily; diet recommendations to decrease sugar intake, increase fruits and vegetables daily, and Vitamin D3 1,000IU daily. The plan was reviewed and various parts emphasized and modified at each visit.

Discussion/Conclusions:

• The patient experienced a greater number of headaches, however the duration of these headaches decreased after osteopathic treatment.
  - 13 of the headaches from this period occurred during the first 4 weeks after starting OMT, while only 5 occurred in weeks 5-8 after treatment.
  - This trend suggests that the frequency of headaches is decreasing following the initiation of OMT as a treatment modality.
• The increased score on the SF-36 implies that osteopathic treatment is useful in decreasing disability and improving quality of life.
• An osteopathic approach to care can help decrease NSAID use, thus decreasing the risk for adverse side effects such as GI ulcers, atrial fibrillation, and kidney damage [4].
  - The patient reported a subjective decrease in pain/intensity following OMT.
  - The patient reported increased confidence in her headaches resolving within a reasonable time period following being treated with OMT.

Limitations/Future Directions:

• Duration of case study: the patient was treated for 2 months, and data was only collected for 8 weeks before and 8 weeks after treatment.
• Inability to control external factors precipitating headaches: the patient faced different stressors during the two 8 week periods.

• Future Directions:
  - Continue to monitor long term effects of OMT on chronic headaches in this patient.
  - Repeat the disability assessment to continue to quantitatively measure change in self-reported disability.

Significance:

• This case highlights the efficacy of OMT to both diagnose and treat somatic dysfunctions associated with chronic headaches.
• This case illustrates the benefit of using OMT for pain management, quality of life improvement, and reduction in NSAID or pain medication use in post-MVA whiplash patients experiencing chronic cervicogenic headaches.

References