

Hypertensive 80 year-old male treated with cranial therapy: A case report

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Narrative: A long-time patient presented with a new complaint of high blood pressure, which was unusual for him. It had started a couple of weeks prior to his appointment and had remained consistently high. He had no change in lifestyle or potential life stressors, and it was seemingly insidious in onset. At the time of his appointment he was 80-years-old and had been monitoring his blood pressure regularly using a wrist device. At the time of his appointment, using the same wrist device, his blood pressure was 167/93.

The patient was treated with a cranial technique for high blood pressure following which and using the same wrist device, it was 117/74. The following day the patient communicated to the office that his blood pressure had remained improved and stable, and had only slightly increased to 126/78.

Indexing terms: Chiropractic; sacro-occipital technique; SOT; hypertension.

Introduction

High blood pressure, or hypertension, is a common condition in which the long-term force of the blood against artery walls is high enough that it may eventually cause health problems, specifically cardiovascular disease.

According to the CDC's report in 2015-16, the prevalence of hypertension was 29.0%, and that number tends to increase with age. Hypertension remains an important public health challenge in the United States because it increases the risk for cardiovascular disease, the number one cause of death in the US. Effective blood pressure management has been shown to decrease the incidence of stroke, heart attack, and heart failure, making potential solutions to this health issue extremely valuable. (1)

'Despite the vast amount of evidence accumulated to date on the benefits of lowering blood pressure, elevated blood pressure is still the leading risk factor for disease and disability worldwide'. (2) 'Hypertension is invariably diagnosed along with multiple comorbidities, particularly diabetes mellitus, obesity, chronic kidney disease, coronary artery disease, and heart failure'. (3) It is important to note that the 'clustering of these

... do not expect to always have an answer as to why a particular intervention produces a favourable clinical outcome ...'



conditions requires a thorough-and often multidisciplinary-approach in the evaluation and management of individuals with hypertension'. (3)

Multidisciplinary blood pressure management can take many forms, (4) including lifestyle modifications (diet (5) and exercise(6)), numerous medications, or a combination of treatment modalities. A look into the literature suggests some success has been made at controlling or improving hypertension using treatments outside of lifestyle and medications, including paced breathing, (7) chiropractic therapeutic interventions, (8, 9, 10) fasting, (11) and nutritional remedies, (12, 13) though more research is needed to determine their large-scale effectiveness.

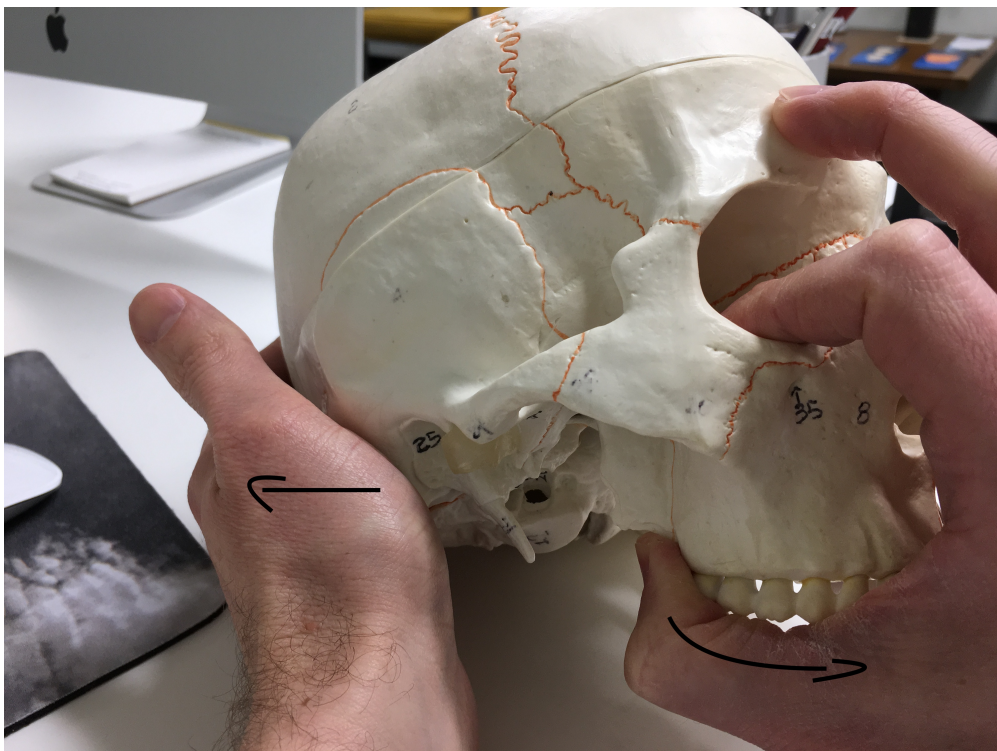
Case Presentation

A long-time patient presented with a new complaint of high blood pressure, which was unusual for him. It had started a couple of weeks prior to his appointment and had remained consistently high. He had no change in lifestyle or potential life stressors, and it was seemingly insidious in onset. At the time of his appointment he was 80-years-old and had been monitoring his blood pressure regularly using a wrist device. At the time of his appointment, using the same wrist device, his blood pressure was 167/93. The patient claimed that it hadn't gotten below 160/90 for the past couple of weeks.

Methods/Intervention

The patient was treated a few days earlier using Sacro Occipital Technique (SOT) protocol for Category 1 (balancing pelvic torsion and normalising sacral nutation), as well as SOT cranial methods to balance frontal bone tension patterns. At the time of the visit when he let it be known that he was having consistently high blood pressure, he was then reassessed, and found to have sustained the results of his prior treatment, and presented with no pelvic torsion and normal sacral nutation. Because of this, he was only treated with a cranial technique for high blood pressure.

This cranial technique was performed bilaterally, by placing the doctor's thenar pad onto the mastoid with one hand, gentling guiding it posterior, while an intra oral contact is made with the thumb of the other hand, which hooks onto the *pterygoid hamulus* drawing it anterior. This light separation is held for 1-4 minutes, or until a gentle give/release of tension is felt by the doctor.



Results

Immediately following the cranial treatment the patient rechecked his blood pressure using the same wrist device, and it was 117/74. The following day the patient communicated to the office that his blood pressure had remained improved and stable, and had only slightly increased to 126/78.

At six-months post treatment he indicated that his condition had remained stable since the time of the cranial manoeuvre.

Discussion

It is unknown how this cranial technique might affect blood pressure, but a number of cranial foramen are located between these two contacts, which may provide some insight into how the technique works: the foramen ovale, foramen spinosum, foramen lacerum, and the carotid canal are all located between the mastoid process and the *pterygoid hamulus*. Some theories suggest that there may be an issue with cranial nerve entrapment or compression syndromes, (14) particularly in this case with the vagus nerve, which could represent a parasympathetic affect on blood pressure.

There have also been other case presentations (15, 16, 17) that utilised cranial techniques to successfully treat hypertension. One type of cranial technique proposed an autonomic affect, related to what is termed '*compression of the 4th ventricle*', which was found to have an affect on hypertensive patients. (18) Some studies have found a relationship between location of therapeutic application (spinal level) and its affect on the autonomic system. (19, 20)

As the field of Chiropractic is expanding its position in preventive care (21) and within multidisciplinary arenas, (22) surveys of chiropractic clinics are finding that patients with hypertension represent a significant percentage of their presenting patients. (23, 24, 25)

Additionally, a number of case studies have demonstrated what appears to be affective in-office care for a subset of patients with hypertension or high blood pressure. (26 - 34) Of note are two studies discussing a homeostatic effect from chiropractic intervention, which indicated that a similar treatment might raise blood pressure with hypotensive patients and lower blood pressure with hypertensive patients. (35, 36)

Although the patient was elated that his blood pressure decreased without medications after just one procedure, precautions and patient education were taken prior to utilising this technique. This is a patient who was well known to the practitioner, who was not on any medications for hypertension, and had no prior history or explanation for a recent rise in blood pressure. Additionally, the patient agreed that if the procedure didn't lower his blood pressure that he would seek consult with his primary care doctor to determine if there was some other underlying cause for the sudden increase.

As with any case study it is difficult to rule out the placebo or ideomotor effect, also it is possible that the patient's response represented a regression to the mean.

What is compelling however is that for close to three weeks his blood pressure was elevated and he was consistently monitoring his blood pressure with a wrist monitor. Following the treatment he immediately took his blood pressure with the same wrist monitor and noted its '*normalisation*' which has sustained itself for over six months. While one study did not find a relationship between spinal manipulation and blood pressure, (37) in this case cranial work was utilised as opposed to spinal manipulation.

It is also possible that only a subset of hypertensive patients may be responsive to manipulation to the thoracic or cervical spine, or cranial regions. This case study presents a case of idiopathic onset of hypertension that was responsive to cranial manipulation, and it is possible

we may find some resistant hypertensive (38) patients might have improved outcomes with chiropractic and allopathic co-management.

Conclusion

This case report discusses an 80-year-old patient presenting with high blood pressure with a consistent reading for 3 weeks. A cranial procedure was applied bilaterally and his blood pressure returned to its normal level immediately, and sustained itself at 6-months follow up. This is only one case study and caution must be taken with anyone experiencing hypertension, however finding what subset of patients may be responsive might limit the need for the chronic use of medication.

Since hypertension has multiple comorbidities, many life threatening, it's important that a patient is maintaining regular checkups with his/her primary care doctor. Although the result of this case is very encouraging, more research is needed into the effectiveness and aetiology of this technique.

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