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CASEREPORT

Intervention in Atrial Fibrillation with Chiropractic Manipulation and Sacro Occipital Technique's Chiropractic Manipulative Reflex Technique (CMRT): A case report

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Narrative: Chiropractors do not presume a chiropractic manipulation will 'cure' any visceral presentation such as AF. However there may be a subset of patients with AF that may be responsive to chiropractic interventions.

This paper reports one such patient, and raises questions regarding minimalist, conventional chiropractic intervention and may represent a type pf patient worthy of further study.

Indexing terms: Chiropractic; sacro-occipital technique; AF, CMRT.

Introduction

Atrial fibrillation is a heart condition in which there is dysfunction of the sinus node pacemaker leading to increased activity within the atria of the heart, with rapid and irregular activity.

Atrial fibrillation (AF) is the most common atrial arrhythmia in adults worldwide. '*In Australia, Europe and the USA, the current estimated prevalence of AF is about between 1% and 4%, with lower prevalence evident in Asia (0.49%-1.9%). AF prevalence is highest among Whites. In Western Europe, Australia and North America 70% of people with AF are aged >65 years, whereas the average age of AF patients in other geographical regions is often lower*'. (1) '*As medical advancements continue to contribute to an ever-increasing aging population, the burden of atrial fibrillation on the modern health care system continues to increase*'. (2)

Causes of AF are continually emerging and have been found to depend on comorbid conditions. Genetic studies report 17 independent signals for AF at 14 genomic regions. Advanced age, male sex, and European ancestry are also prominent AF risk factors.

> *... the patient was closely monitoring his own cardiac performance which allowed confidence for a trial of CMRT; normalisation of his pulse rate was noted which sustained itself during the two-week follow-up ...'*

Other modifiable risk factors that predispose to AF include hypertension, thyroid dysfunction, sedentary lifestyle, smoking, obesity, diabetes mellitus, obstructive sleep apnea, and elevated blood pressure. Both heart failure and myocardial infarction increase risk of AF and vice versa creating a feed-forward loop that increases mortality. (3, 4)

The pathophysiology of AF centres around '*4 general types of disturbances that promote ectopic firing and reentrant mechanisms, and include the following: (i) ion channel dysfunction, (ii) Ca (2+)-handling abnormalities, (iii) structural remodelling, and (iv) autonomic neural dysregulation*'. (4)

Perhaps there may be a 5th type due to dysfunctional spinal neurological reflexes. To complicate the diagnosis, subsets of AF have been found to be '*silent*' or subclinical asymptomatic AF (SAF) with electrophysiological and mechanical effect of SAF and AF being similar or the same. SAF is common and may have significant clinical complications, which include emboli, heart failure, and early mortality, which are of paramount importance. '*Consequently, SAF should be considered in estimating the prevalence of the disease and its impact on morbidity, mortality, and quality of life*'. (5)

The widespread incidence of AF worldwide has led to an increasing number of hospitalisations, anticoagulation management, and increasing trend for disposition to skilled facilities, which are drivers of the increasing cost associated with AF. (6) '*There has been significant progress in AF management with the release of new oral anticoagulants, use of left atrial catheter ablation, and novel techniques for left atrial appendage closure*'. (6)

This case report seeks to describe the clinical course, treatment and immediate response of a 64-year-old male suffering from atrial fibrillation of 15-years' duration to the application of chiropractic care. Over 2-years post-surgery, the patient presented at this clinic (May 2017) with complaints of consistent elevated heartbeat of 120 – 130 range during the previous 16 months.

Methods

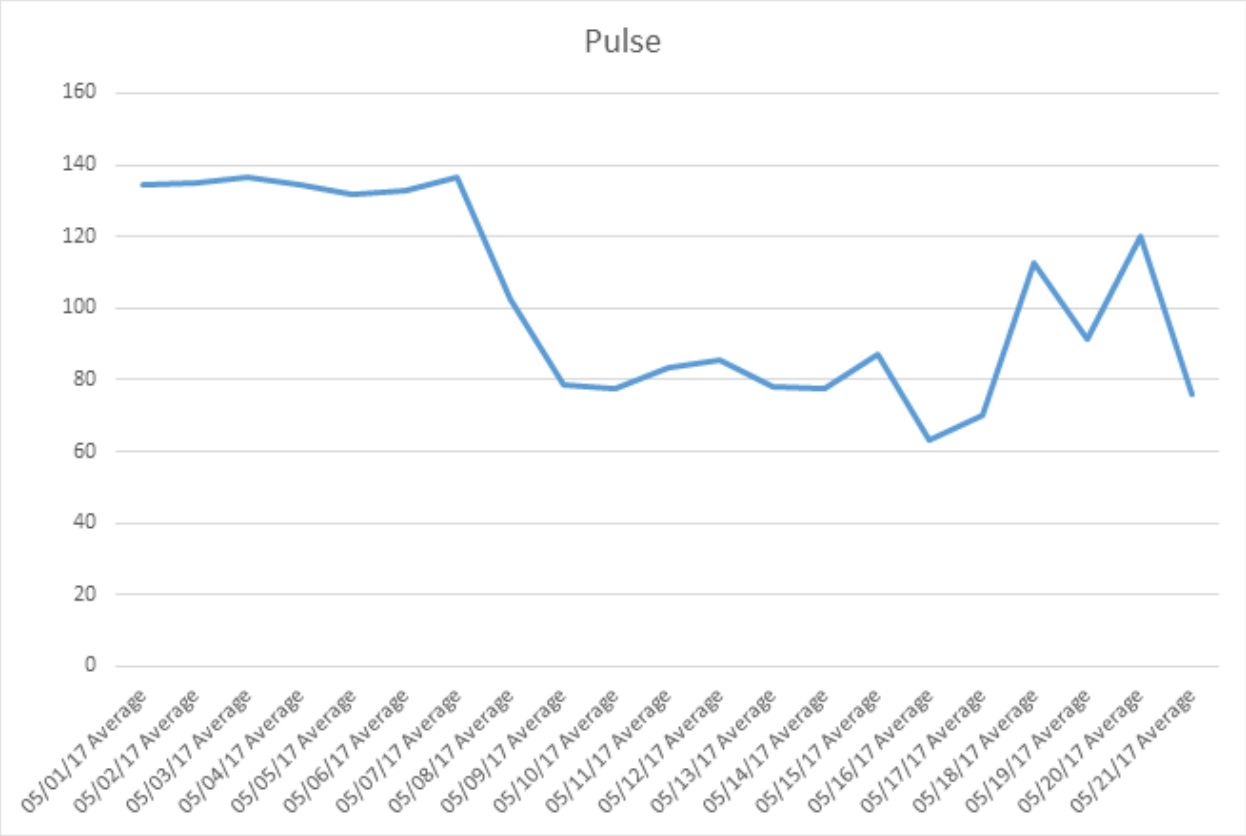
A 64-year-old male patient had been seen the prior year for care at this office, which had an unsuspected positive effect on his heart function. (7, 8) When he noted that he was having uncontrollable issues with his atrial fibrillation, he thought coming back for care was '*worth a try*'. During this current round of care the patient was seen for two office visits that consisted of Van Rumpt spinal adjustments (9) to T3, 5, 7, and 9 vertebrae, cardiac reflexes, liver and gall bladder flush and adjustments to the shoulder girdle complex. He was also treated with Sacro Occipital Technique's (SOT) *Chiropractic Manipulative Reflex Technique* (CMRT) (10) for T1 cardiac occlusal-type.

This type of care focused on organ referred pain patterns, clinical findings, and body patterns relating to specific suboccipital muscle righting patterns associated with upper thoracic imbalance. Once determined that the patient had those patterns CMRT treatment focused on adjusting the upper thoracic spine, reducing the occipital vertebral reflex arc, balancing cardiac viscerosomatic/somatovisceral reflexes and vagal nerve stimulation as well as diaphragm relaxation techniques. (10)

Results

The patient had taken twenty-one random-pulse readings (Figure 1) the week prior to seeking treatment at this office that averaged 134.6 beats-per-minute (bpm). Within 5 minutes of the first treatment his heart-rhythm reduced to 85 bpm and two days later, the pulse rate consistently reduced to 75 bpm. The patient supplied data of 41 random-pulse readings taken over the two-weeks' post-treatment demonstrating an 88.7 bpm average.

Fig 1: Patient reported pulse rates before and after care at this office



Discussion

This patient presented with a history of AF and arrhythmia dating back to 2002. Catheterisation of his left atrium and surgical ablation had been performed in September 2014, which only temporarily controlled his condition. This case is of interest due to the chronicity of the patient symptoms prior to care and the temporal relationship between treatment and response to care. It is currently unclear what portion of patients with complaints of chronic increased heart rate might be due to spinal neurological causes or to related visceral mimicry symptomatology. (11)

There has not been much research discussing chiropractic manipulations and its effect on AF. One case study (10) discussed treatment to the upper cervical spine that had a positive effect on 68-year-old female diagnosed by her cardiologist with atrial fibrillation. Treatment was directed to the atlanto-occipital area on 4 separate visits and following the second treatment, the patient's heart rate variability readings showed signs of improvement and her blood pressure normalised so that she was able discontinue her medication. (12)

With this case we cannot rule out the placebo or ideomotor effect, or possible regression to the mean. Therefore, generalisation of the results of this study to the AF population at large is inappropriate. However it is interesting that he had been taking his multiple daily pulse readings for a week prior to the first treatment and then continued for multiple times daily for two weeks following care, with consistent findings pre- and post-treatment.

The coincidence of the treatment and positive response 5 minutes later does suggest a temporal relationship might be a reasonable consideration.

Conclusion

This case discusses a 64-year-old male patient with AF of 16-month duration, post ablation therapy. After one treatment significant normalisation of his pulse rate was noted which sustained itself during the two-week follow-up.

When treating non-musculoskeletal conditions it is important that chiropractors actively co-treat with allied allopathic physicians.

Dealing with life threatening cardiac related conditions warrants caution that chiropractors do not presume a chiropractic manipulation will 'cure' a visceral presentation such as AF. However there may be a subset of patients with AF that may be responsive to chiropractic interventions, and may represent a subset worthy of further study.

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