Asia-Pacific Chiropractic Journal

ASRF CASE REPORT PROJECT

Resolution of Periodic Fever Syndrome in 3-year-old female: A case report

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Abstract: *Background* A three-year-old female presented for chiropractic care with a primary concern of a '*clicky wrist*' and a request for a spinal check. An existing diagnosis of *Periodic Fever Syndrome* was discovered during the history and examination: a condition which affected the patient significantly approximately every two weeks.

Intervention/Outcomes A course of chiropractic care commenced, during which the focus was a reduction in vertebral subluxations. Over the course of care, the frequency and severity of the periodic fever syndrome reduced significantly.

Conclusion Chiropractic care for the reduction of vertebral subluxation may impact physical resilience and adaptability, which in this case manifested as a significant improvement in *Periodic Fever Syndrome*. Further research is required to isolate and confirm the mechanisms behind such improvement.

Indexing Terms: Chiropractic; Subluxation; adaptability; Periodic Fever Syndrome.

Introduction

Fever in childhood is a common complaint, and usually occurs due to infection. However, if fevers are recurrent and unexplained, occurring more than three times over the course of six months with at least a seven-day gap in between, it fits the description of *Periodic Fever Syndrome*. (1) Periodic fever syndrome is thought to be exceedingly rare, and auto-inflammatory in nature (2). In most instances, they present in infancy and resolve by the second decade of life, with severity ranging from mild to life threatening.

> *... Management by a trained and experienced chiropractor is shown to be associated with abatement of Periodic Fever Syndrome in a 3 yo♀ ...'*

Traditional medical care usually involves steroidal or pharmaceutical intervention targeted at reducing inflammation. These include '*colchicine, IL-1 blockade and anti-TNF therapies, and there is an increasing interest in blocking interferon pathways.*' (2)

While there is speculation about the role of complementary and alternative or natural therapies in managing the condition, there is a general paucity of research on non-invasive options for patients and their families.

This case report describes a three-year-old female who underwent subluxation-based chiropractic care, and whose period fever syndrome improved concomitant with a course of

chiropractic care. The *Australian Spinal Research Foundation* defines the *Vertebral Subluxation* as '*A diminished state of being, comprising a state of reduced coherence, altered biomechanical function, altered neurological function and altered adaptability.*' (3)

Background

A three-year-old female was presented for chiropractic care with a primary concern of a '*clicky wrist*' and a request for a general spinal check-up. She had a history of monthly adjustments from 6-weeks of age, with the last adjustment at 1 year old, however it had been some time since her last check. Previously, she had experienced positive results attributed to chiropractic care.

More recently, she had been diagnosed with periodic fever syndrome and *metatarsus adductus* (in-turning foot), the latter of which had resolved. The *Periodic Fever Syndrome*, however, had not. The condition had been diagnosed by a specialist and manifested as a fever approximately every 2 weeks with no apparent cause. Episodes caused the child to be unhappy, restless, tired, unable to function well, and regularly prevented her from attending day-care.

Her health history included being involved in a minor car accident 2 weeks prior to presenting. Other minor traumas included falling from a high-chair, however normal developmental milestones had been reached within normal limits. She had a history of cradle cap, fevers, colic, reflux (at times with distention), and persistent colds and flus.

Birth History

Relevant birth history included vacuum assisted vaginal delivery in which the mother received oxytocin, epidural, gas, and stitches, and the infant received bruising as a result of the vacuum extraction. The pregnancy had been unremarkable, with no cigarette, drug, or alcohol use during pregnancy, and the mother participated in pregnancy yoga (or similar activities). As an infant, the patient recovered well after birth, but parents reported that she didn't sleep well.

Examination

Upon presentation, a thorough examination was undertaken in which a negative result (normal) was returned for both Patrick's (FABER) test and Allis test.

Diminished S1 reflexes and *Shimizu* were noted on the right-hand side (Shimizu is a reflex on the spine of the scapular that can be used to identify irritated upper cervical spine). [Ed: click here to read more about the trapezius fibres as indicators] Subluxations were detected at the sphenoid and occiput, internal sphenoid adjustment, occasional occiput ASLI, and RP-Regular subluxation.

Management

A six-week course of care was commenced, with adjustments, at-home advice, and examination notes presented as Table 1.

Outcomes

Over the course of treatment, the patient's mother remarked that she thought it must be a coincidence that her daughter hadn't gotten temperatures after chiropractic care. However, a bigger gap between appointments occurred over the Christmas period and temperatures returned with the patient feeling unwell. This made the mother feel sure that the adjustments were effective at reducing the severity of the patient's temperatures.

The patient no longer gets a temperature but may still be slightly more emotional on those days when a periodic fever would be expected. However, it is now far more manageable for the family. The mother was very happy with this result, as the only alternative treatment viable

treatment in this case was steroids. The mum had got the prescription filled but had never had to administer it to the child.

Table 1: Treatment précis

Appt	Examination	Treatment
16/10/20	Good pincher grip developing. R leg dominance. Can hop and jump on one leg. Eyes symmetrical and tracking. Normal facial and head shape appearance Allis -ve PAT FAB -ve S1 +3 Patella +3 Shim RHS All other limb reflexes normal Navicular restriction BL, feet otherwise normal appearance. L inferior radius and anterior humerus.	Advice: Flexible shoes and no shoe time Treatment: activ navicular and gentle radius distal flick Respiration hold anterior L humerus C2 RPS (activator) RPI ilium (activator)
23/11/20	R SHR R S1 +1 L+3	RAI sacrum logan basic Occ AS(L)I Internal sphenoid rel C2 RPS (activator), L inferior radius flick
05/01/21		C2 RPS (activator) T3 AL(activator) Intra-oral sphenoid lift with dural tension and respiratory assistance
02/02/21		C2 RPS (activator setting 1) Internal sphenoid Sacrum BP activ (setting 2)
02/03/21		C2 RPS (activator) Sacrum R (activator) T2 AI (activator)
13/04/21	R shim R foot MT adductor and BL pronation mild Palpation of the foot good ROM and joint play	Advice: monitor pronation, ASICS shoes, podiatrist potentially in the future with school starting as arch still developing Treatment: C2 RPS (activator) Sacrum R (activator) L wrist lunate activ
25/05/21	R inferior radius	Advice: mum happy to have case study done Treatment: sacrum R (activator) C2 LPS (activator) C3 RPS (activator) R radius flick

Discussion

The chiropractor noted that her approach to this patient was to do a full spinal check, as well as peripheral joint check and nervous system check and adjust accordingly. The aim was to assist function by correcting subluxations (both spinal and peripheral joints) and to identify any major underlying issues that presented, and manage them accordingly. Adjustments were delivered with as low a force as possible, within the normal physiological range of the patient, and in a manner that was fun, gentle, safe, and not stressful.

The chiropractor was careful to make no promises made with regards to directly treating *Periodic Fever Syndrome*. It is possible that a better functioning nervous system could affect temperature regulation, but due to lack of specific strong research findings in this area, it is difficult to isolate a specific mechanism behind this improvement. Thus, further research is required.

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Cite: Ullman E, Postlethwaite R, McIvor C. Resolution of Periodic Fever Syndrome in 3-year-old female: A case report. Asia-Pac Chiropr J. 2022;2.6. URL apcj.net/papers-issue-2-6/#UllmanPeriodicFever

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About the Chiropractor

Dr Elizabeth Ullman graduated from Macquarie University with a Bachelor of Chiropractic Science and a Masters of Chiropractic in 2005. She has been in practice for 16 years and during this time has undertaken further studies in Paediatric Chiropractic with a passion for treating childhood and pregnancy related disorders. She uses a combination of chiropractic techniques and is certified in Neuro Emotional Technique.

About the Case Report project

This Case Report is a part of the ASRF Case Report Project 2021, a project designed to gather client studies from chiropractors and transform them into much-needed case reports, focused on the effects of chiropractic care on clinical presentations highly relevant to chiropractic, such as stress, immunity and adaptability. This project was made possible by the generous fundraising and contributions of ASRF supporters.