Chiropractic Care of a Pediatric Patient Suffering from Recurrent Otitis Media and Respiratory Syncytial Virus: a Retrospective Case Report

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Abstract

Objective: To describe the chiropractic care of a pediatric patient suffering from recurrent otitis media (OM) and respiratory syncytial virus (RSV).

Clinical Features: A twenty-one-month-old girl presented with previous diagnoses of OM and RSV. As an infant she was not breastfed. She was diagnosed with her first ear infection when she was one-month-old and RSV at nine months. Her pediatrician managed the ear infection with oral antibiotics and managed the RSV with a bronchodilator via nebulizer. The patient’s mother brought her daughter to the chiropractor because she was frustrated by the length of time in which her child had been ill and was not comfortable with the prescribed allopathic care plan. After a thorough pediatric examination, the chiropractor, using Diversified chiropractic analysis, located subluxations at the level of the pelvis and atlas.

Intervention and Outcomes: The patient received low-force, high-velocity chiropractic adjustments as needed, three times a week for three months. After the first month of chiropractic care, the child’s mother reported that she discontinued the use of oral antibiotics because there was no recurrence of OM. This was an improvement as it previously occurred twice monthly for the last year-and-a-half. By the end of three months of chiropractic care, nebulizer treatments for RSV ceased. The patient has since remained symptom free and continues to get her spine checked weekly as a wellness patient.

Conclusions: This report describes the successful treatment of OM and RSV in a pediatric patient, using Diversified chiropractic technique. It is uncertain whether the chiropractic care by itself caused the child’s favorable immune response or if other factors played a role in resolving her conditions. Despite this uncertainty, the clinically relevant objective findings are substantial to warrant more research pertaining to the chiropractic care of pediatric patients.

Key Words: Chiropractic, Vertebral Subluxation, Pediatric, Respiratory Syncytial Virus, RSV, Otitis media

Introduction

Chiropractors treat a wide variety of pediatric health conditions¹ and there is some evidence that suggests chiropractic is an effective technique for reducing the frequency and severity of recurrent otitis media (OM) in children.² In the United States, OM is the most frequent reason...
for physician visits for children under the age of fifteen and the second most common diagnosis in medicine. Clinicians do not agree on the specific criteria for the diagnosis of OM but the list of common symptoms includes: ear pain, fever, swollen neck lymph glands, possible GI distress, a red and bulging ear drum or purulent discharge. While OM remains the most frequent reason for prescribing antibiotics to children in the U.S., prior antibiotic use is considered to be associated with an increased risk of OM, as well as not being breastfed. Other studies show that infants who are not breastfed have double the odds of developing recurring OM whereas, infants who are breastfed for the first four months of life are protected against single and recurrent episodes of OM.

Respiratory syncytial virus (RSV) is the most common cause of viral lower respiratory tract infection in infants and children with 90% of children infected by 2 years of age. The Pathologic Basis of Disease classifies RSV as a pathogen which expresses itself as bronchiolitis or pneumonia. Weisman describes RSV as a ubiquitous pathogen that produces seasonal epidemics most frequently affecting immunocompromised children, premature infants, and infants with congenital heart disease or chronic lung disease. According to Durani, the combination of cough, wheezing and retractions accurately predicts RSV in children presenting with acute respiratory illness during the winter season, but research states a definitive diagnosis for RSV is based only on tissue culture.

Unfortunately, research trends show that family physicians and pediatricians continue to diverge from the published principles and quickly prescribe a host of various medications. RSV is contracted by coming into contact with surfaces which contain infected nasal secretions. While good hand washing has been identified as the key to preventing the spread of this infection, a 2006 article from Pediatrics suggests a possible prevention strategy beginning at birth. Chantry et al document that full breast feeding (for greater than or equal to six months) provides greater protection against developing respiratory tract infection, suggesting that infants who are not breastfed could have an increased risk. Via several mechanisms, it has been identified that human milk can actively stimulate the immune system of the breastfed infant, thus reducing the risk of respiratory tract infection and otitis media.

Case Report

History

The female pediatric patient presented to the clinic with previous diagnoses of recurrent otitis media (OM) and Respiratory Syncytial Virus (RSV). The mother brought her daughter to the chiropractor at twenty-one-months-old because she had become exasperated by the length of time in which the child had been sick and exhausted by the care plan prescribed by her pediatrician which consisted primarily of prescription medication over the course of a year-and-a-half with no resolution of her child’s symptoms.

When the child was one-month-old, she experienced her first ear infection. The mother described her daughter as having red ears and a high pitched scream. The pediatrician prescribed antibiotics for OM and she was sent home. With each new episode, the mother would receive antibiotics to give her child. At nine months old, the little girl was diagnosed with RSV and the mother was to administer a bronchodilator to her daughter with a nebulizer, in addition to the antibiotics she was already taking for OM.

The mother reported no family history of OM or RSV, only mentioning that she is not clear as to how her daughter contracted either of these illnesses, and is confused as to why she had been sick for this duration. She mentions that she had tried to breastfeed her daughter but discontinued due to difficulty. Her mother was also concerned that her daughter had been on a nebulizer for RSV for the past year and found the current care plan by the pediatrician of antibiotics and bronchodilators to be frustrating because her daughter was not getting well. The mother states she decided to pursue other options regarding her daughter’s health.

The child began chiropractic care for the first time in her life at the age of twenty-one-months. Upon recommendation, her mother brought her to the clinic to be examined and checked for vertebral subluxations.

Chiropractic Assessment

Diversified technique utilizes many different indicators of subluxation including, but not limited to: posture, motion palpation, the location of any sites of palpatory pain, leg length symmetry and thermography. Of the aforementioned, static and motion palpation are commonly used to determine chiropractic subluxations in pediatric patients.

The objective of static palpation is to digitally locate areas containing edema and tenderness noting the child’s reaction upon statically palpating their spine. Upon static palpation of the patient’s spine, edema and tenderness were identified over the right sacroiliac and right atlanto-axial joints.

Motion palpation was then used to determine if there was restriction at the joint spaces identified by static palpation. The goal of motion palpation is to determine how much the joint moves within its given range of motion. In the pediatric pelvis, lifting one leg at a time enables the chiropractor to feel for restriction in the sacroiliac joints. At the atlanto-axial joint, restrictions are found when a global loss of motion exists upon passive head rotation. Motion palpation of these areas determined a right pelvic restriction and a right atlas restriction. Unfortunately, motion and static palpation have limited intra-examiner reliability and it is significant to mention that analysis and detection of chiropractic subluxation involves a multitude of components.

Once restrictions have been noted, x-rays are taken to accurately determine the level and direction of vertebral malposition. A rationale for using plain film imaging in the chiropractic office is first, to rule out the presence of pathology that would contraindicate manipulative therapy; second, to identify anomalies that would influence how an adjustment is applied; and last, to obtain static and functional biomechanical relationships that may have clinical relevance to the patient’s symptoms. Lateral cervical and anterior to
posterior pelvic views were taken and analyzed using Gonstead x-ray mensuration. Listings of Posterior Inferior (PI) of the right pelvis and Anterior/Superior/Right (ASR) of the right atlas were determined. A PI subluxation reveals a “longer” ilium on x-ray because the ilium moved posterior and inferior to the sacrum. An ASR subluxation is specified by a visibly open wedge in the front of C1 between C1 and C2 on a lateral cervical x-ray, because atlas has moved anterior and superior to C2. The third potion of the listing (R) was determined by palpation.

**Intervention**

The mother brought her daughter in to be checked for subluxations three times a week, for three months, during initial intensive care. The chiropractor located and reduced her pelvic subluxation twenty-five times and her atlas subluxation twenty-eight times using Diversified adjustments. The pelvis was adjusted while the patient was in a prone position on the adjusting table. The doctor gently lifted the patient’s right leg with his left hand and delivered a high velocity, low-force impulse into the right sacroiliac joint with the thumb of his right hand, reducing the subluxation. The patient’s atlas was adjusted while the mother held her daughter in her arms. The doctor stood in front of the mother and contacted the child’s right atlas with his right index finger delivering a precise low-force impulse in a right to left vector. Immediately following each adjustment, the doctor re-checked the segments through motion palpation to determine that the subluxations were reduced and ranges of motion improved.

**Results**

The mother reported an improvement in the child’s quality of sleep within the first week of care which consisted of three visits in which her right pelvis and right atlas were adjusted. Within one month of care, the child had no recurrence of OM and her mother elected to stop giving her child the oral antibiotics. Within three months of care, she brought her child back to the pediatrician and was told the child no longer had RSV, therefore nebulizer treatments were discontinued. The patient who is now four years old has had no further occurrences of OM or RSV. The patient continues to have her spine checked for chiropractic subluxations on a weekly basis.

**Discussion**

Current medical management of otitis media is geared towards the eradication or removal of the bacteria in the middle ear with use of antibiotics as the first line of defense. However, the accepted guidelines for management of recurrent OM stress the importance of limiting antibiotic use. Regarding RSV, there is little evidence to support the administration of bronchodilators as treatment for RSV. Weisman suggests vaccinating against RSV as a preventative measure within the high-risk population but his study ultimately concluded that the vaccine did not prevent RSV in high risk infants, only reduced the number of cases.

In other research, the American Academy of Pediatrics recommends exclusive breastfeeding for infants during the first six months of life in order to provide greater protection against respiratory illness. Since the pediatric patient in this case report was not breastfed as an infant, one could theorize that her immune system lacked the anti-infectious capacity uniquely acquired through breastfeeding, but unfortunately, there is no evidence to support this claim.

The chiropractic profession has claimed favorable clinical responses for otitis media and other upper respiratory infections for nearly 100 years and evidence is increasingly suggesting that the nervous system is capable of modulating the immune system. Therefore, such a connection creates the possibility that a chiropractic adjustment can influence the immune system because of its effect on the nervous system. In fact Brennan et al, in an effort to better understand the efficacy of spinal manipulation, assessed the changes in biological markers such as polymorphonuclear neutrophils (PMN) after spinal manipulation, concluding that a high-velocity, low-amplitude thrust primes PMN for an enhanced respiratory burst, i.e. a viscerosomatic response. Based on those findings one could presume that the Diversified chiropractic adjustment, such as the one received by this patient, could initiate a parasympathetic response, based on the location of the autonomic nerves, thus improving her condition. However, large scale studies assessing this relationship are needed.

**Conclusion**

This report describes the successful treatment of OM and RSV using Diversified chiropractic technique on a pediatric patient. It is uncertain whether the chiropractic care by itself enabled the child’s favorable immune response or if other factors played a role in the resolution of her conditions. Despite this uncertainty, the clinically relevant objective findings are substantial to warrant more research pertaining to the chiropractic care of pediatric patients. With that being said, we are seeing an increase in the number of children being brought to alternative health care practitioners and since the majority of those practitioners are chiropractors, it is imperative that the chiropractic profession work towards establishing standards of care for the management of common childhood conditions.

**References**


