CASE STUDY

Resolution of Severe Chronic Asthma in an Infant Following Upper Cervical Chiropractic Care to Reduce Subluxation

Robert Rectenwald, D.C., B.C.A.O.

Abstract

Objective: To discuss the results of chiropractic care in a 19 month-old patient with the diagnosis of severe chronic asthma and vertebral subluxation.

Clinical Features: This patient began experiencing symptoms at age 9 months. By age 18 months he had been treated 4 times at the hospital emergency room for episodes of acute respiratory distress. He suffered from constant wheezing and cough and was not responding well to pharmacological interventions.

Intervention and Outcomes: Adjustments of the cervical spine utilizing the Orthospinology technique with KH-4 electric instrument were performed on 6 visits over a 7 month period. After 9 weeks, no further episodes of breathing difficulty were reported and measures of vertebral subluxation had reduced.

Conclusion: The results in this case suggest that chiropractic adjustments to reduce vertebral subluxation may be effective for the reduction of asthma symptoms in some pediatric cases which have not responded well to standard pharmacological treatment.

Keywords: Asthma, pediatric, chiropractic, adjustment, vertebral subluxation, Orthospinology, cervical spine

Introduction

Asthma is a respiratory system dysfunction, essentially an inflammation of the lungs which results in chronic breathing difficulty. It is characterized by variable and recurring airflow obstruction secondary to mucous production by the respiratory epithelium and bronchospasm. The common symptoms are shortness of breath, coughing, tightness in the chest and expiratory wheezing. There are multiple factors suspected to be involved in the etiology. Environmental, genetic, emotional and nutritional factors have an impact. The word asthma, coined by Hippocrates, originates from the Greek word asthaino, meaning to gasp for breath or to pant. The disorder is categorized as either extrinsic, allergic or intrinsic, nonallergic asthma. Extrinsic asthma accounts for about 90% of all cases and typically develops in children.

1. Assistant Professor, Life University Marietta GA
In North America the condition affects about 7 million people between the ages of 5 and 14. It is the most common chronic illness in the pediatric population. It affects males twice as frequently as females among younger patients. There is a significantly higher rate of asthma in African-American and Hispanic children than in Caucasian children. Although the exact etiology of the condition is unknown, environmental triggers and genetic factors are known to be involved. Children whose parents have asthma are more likely to develop it themselves.

There are studies that suggest allergies contribute to a greater risk for developing asthma in children. Extrinsic asthma can be triggered by exposure to allergens such as plant pollen, molds, animal dander, and dust mites. Irritants to lungs can induce asthma or aggravate an attack. There is evidence that food allergy is associated with an increased risk of asthma. Exposure to smoke increases airway responsiveness and leads to an increased risk, especially in infants. There is evidence that the respiratory syncytial virus, which is the major cause of infant pneumonia, is implicated in the development of asthma. However; this infectious causal agent is an exception. In fact, it is proposed that early respiratory and intestinal infections may offer some protection against asthma.

Severe asthma in children is diagnosed when any combination of chronic symptoms, acute severe exacerbations and persistent airflow limitation are present despite the prescription of multiple therapies. If symptoms strongly suggest asthma, pulmonary function tests for vital capacity, peak expiratory flow rate and forced expiratory volume are performed to confirm the diagnosis. Testing is not typically used on children under the age of two years.

**Case Report**

**History**

A 19 month old child was presented for chiropractic care by his parents with concern about breathing difficulties after recurring symptoms and lack of improvement from multiple treatments. The patient was experiencing constant breathing difficulty with exacerbations 1 to 2 times per week, of varying severity.

He received a diagnosis of severe asthma about two months prior to presentation. The severity of the symptoms was such that the diagnosis was made without the use of pulmonary function testing. The pediatrician ruled out the possible co-morbidities of personal or family emotional and psychosocial disorders. The involvement of allergens and respiratory irritants in the home, such as smoking was ruled out, to the extent possible.

He first developed breathing difficulties at the age of 9 months. The initial diagnoses included upper respiratory infection and middle ear infection. Antibiotic medication was prescribed on 6 different pediatric visits. The medications proved ineffective for the breathing symptoms of wheezing and cough.

At the age of 12 months, he was treated for acute respiratory distress in the hospital emergency room. He was referred to a pediatric pulmonary specialist who made the diagnosis of severe asthma. Antibiotic and steroid medication was prescribed and breathing treatments were recommended for acute attacks. He continued to have persistent symptoms and acute episodes.

**Examination**

The patient appeared well nourished and showed no signs of developmental delay. The physical examination revealed wheezing and rapid respiration. Chiropractic examination revealed functional pelvic distortion (FPD), unilateral hypertonic paraspinal musculature, a persistent head rotation and thermal imbalance over the first cervical vertebrae (C1). Neutral lateral cervical and nasium x-ray views were taken and an analysis performed to assess osseous relationships of the upper cervical spine and to rule out contraindications to chiropractic adjusting. The radiographic analysis yielded measureable misalignment factors between the cranium and the cervical spine, indicating cervical vertebral subluxation complex (VSC). These measurements, along with persistent postural distortion, were used to determine the precise positioning of the patient and the positioning of the instrument for the adjusting procedure.

**Intervention**

The patient was seen on 18 visits over a seven month period. Specific chiropractic adjustments were performed by contacting the C1 vertebra, utilizing the Othospinology technique. The adjustment was performed with the KH 4 electric instrument. This device delivers a force through an excursion of 0.015 inch distance in 0.1 seconds through a metal stylus. The instrument is held in hand by the clinician and positioned with the stylus contacting over the C1 transverse process. The angle of the instrument is set to direct a force on a vector determined by the radiographic analysis.

On each visit, testing was performed which measured postural abnormality, relative skin temperature over the C1 transverse processes and FLLI in order to determine the presence of cervical VSC. The tests were repeated post adjustment to assess the outcome. The patient received an adjustment on 6 of the 18 visits.

**Outcomes**

As reported by the parents and observed on clinic visits, the patient’s breathing difficulty began to improve after 8 days. The frequency of wheezing and coughing episodes reduced to once per week after five weeks of chiropractic care. The episodes of breathing difficulty were mild and less than 12 hours in duration. After 9 weeks, no further episodes of wheezing, coughing or difficult breathing were reported. Objective improvement included resolution of persistent head rotation and paraspinal hypertonicity.

**Discussion**

There are a growing number of studies published in the literature concluding that chiropractic care is effective in cases of asthma. As of the time of this study, none were found involving patients as young as 19 months. Thus far clinical
trials have not been conclusive in providing evidence to support the link between improvement of asthmatic symptoms and chiropractic interventions. Most studies show results limited to reported and observed subjective symptomatic improvement.

In a 2005 study published in The Journal of Clinical Chiropractic, Gibbs reported subjective and objective improvements. Patients who were being treated by conventional pharmacological means had chiropractic manipulation added to the treatment which resulted in breathing capacity improvements based on peak flow meter results. Although asthmatic symptoms can occur without a recognized allergic mechanism, immunoglobulin E (IgE) mediated inflammation is almost always associated.

It is not known for certain why some individuals become asthmatics, while other who may be exposed to the same environmental factors do not become symptomatic. Psychological and or physical stress is hypothesized by some researchers to be the causal agent. The stress response is associated with an increase level of circulating cortisol, resulting in immunity reduction and increased smooth muscle contractility.

A reduction of immunoglobulin A (IgA) associated with respiratory epithelial lining, further increases susceptibility to smooth muscle spasm. Inhibition of catecholamine uptake compounds the condition of increased muscle contraction sensitivity. An imbalance of the autonomic nervous system with a blunted B-adrenergic response and a hyper responsiveness of B-adrenergic and cholinergic systems contribute to bronchoconstriction in asthma. The somato-visceral effects of spinal adjustments on immune system function has been proposed as the link to improvement in the symptoms of asthma.

Chiropractic spinal manipulation can elicit somato-visceral response. Specifically, cells involved in the inflammatory and immune response can be influenced. The somato-visceral effects of spinal adjustments on immune system function has been proposed as a link to the improvement in symptoms of asthma. The lack of objective data is a weakness in this case, as in many similar studies. Due to the age of the patient, pulmonary function testing was not an option.

**Conclusion**

In this case there is evidence to indicate that chiropractic adjusting of the cervical spine is effective for the reduction of the symptoms of severe chronic asthma in a pediatric case. More research would be helpful and is needed to assess the effectiveness of chiropractic care in pediatric cases of asthma. However; considering the low risk involved, a trial course of care consisting of cervical spine adjustments could be considered as an option in pediatric cases of asthma, particularly when conventional pharmacological treatments prove less than effective in chronic cases.

**References**