

Positive chiropractic treatment outcome of chronic constipation in a 2-year-old male: a case report

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ABSTRACT

This case report discusses the chiropractic treatment outcome of a 2-year-old male patient suffering from idiopathic constipation and problems sleeping. The patient was treated with manual manipulation techniques. After four treatments, the frequency of bowel movements increased from once every other day to twice a day and use of medication decreased. Sleep quality also improved. As a result of the improvements noted with this intervention, a musculoskeletal mechanism for the development and persistence of constipation in children has been proposed. This case report highlights the need for high quality research on the effect of spinal manipulation in the treatment of constipation in the pediatric population to provide a potential alternative option to medical treatment or co-management of constipation.

Keywords: constipation, sleep, pediatric, spinal manipulation.

Introduction

Constipation is prevalent in 5-30% of the child population, with more than one third of cases becoming a chronic issue lasting for more than 8 weeks.¹ There are a number of possible causes of constipation in children, such as dehydration, dietary factors, e.g. cows milk intolerance, change in diet, organic causes, e.g. anal fissure, or psychological factors, e.g. withholding stools can become an acquired behavior.² Constipation is commonly referred to as idiopathic when no anatomical or physiological abnormalities are detected. Signs and symptoms of childhood constipation include excessive flatulence associated with a foul smell, infrequent passing of stools, abdominal pain and withholding or straining to stop the passage of stools. Chronic constipation in the pediatric population is a common issue that is most commonly managed in the United Kingdom with the use of laxative medication.²

Method

An online literature search was conducted using scientific journal databases; Pubmed, Alt Health Watch, The Allied and Complementary Medicine Database (AMED), Cochrane Library, Index to Chiropractic Literature, Medline. Databases were searched from January 2000 through February 2017 using the keywords constipation, sleep, pediatric, spinal manipulation. 352 articles were retrieved.

Case presentation

A 2-year old male presented with his mother complaining of right shoulder and arm pain of three weeks duration that

was affecting both daily activities and sleeping. It was additionally reported by the mother that the child was suffering with constipation for which he was taking a significant amount of medication. For one year the patient was supplemented with 5ml/day of senna and 6.9g/day Movicol[®] to control and regulate bowel movements that were reported to be extremely malodorous and painful for the child to pass. The National Institute for Health and Care Excellence recommends macrogols such as polyethylene glycol (Movicol[®]) as a first-line treatment, replacing this initially with osmotic laxatives and then latterly with stimulant laxatives such as senna for the clinical management of constipation. The mother was keen to reduce the medication, however under the advice of pediatric, nutritional and gastrointestinal specialists was reluctant to do so in the apprehension that symptoms would be exacerbated. This chronic problem was an issue that was becoming increasingly challenging for both parent and child, especially due to the patient being of an age where toilet training would normally be deemed appropriate.

Physical examination revealed a fit and healthy child. Active and passive range of motion of the affected shoulder was full and pain free, however an audible 'click' confirmed some palpable laxity and therefore a likely sprain of the gleno-humeral joint. Additional palpation revealed a degree of muscular hypertonicity associated with poor facet joint motion in the thoracic spine. The sacro-iliac joints were found to be significantly restricted in movement to extension and flexion bilaterally. As a result of the shoulder assessment, the parents were reassured that the complaint would be a self-

resolving issue; kinesio-tape was applied in order to provide some additional stability to the joint and within two weeks the patient was asymptomatic. Despite this, the latter findings from the physical examination provoked consideration of a potential clinical link to constipation and musculoskeletal dysfunction. It was subsequently postulated that the imbalances in pelvic movement were associated with the child experiencing difficulty with bowel movements as evaluation of a food diary demonstrated an excellent diet of good nutritional value.

Therapeutic Intervention

After one treatment involving pediatric spinal manipulative therapy, categorised as a high velocity, low amplitude thrust (modified) for the age of the child to the sacro-iliac joints bilaterally and the thoracic spine, the mother reported an increased frequency of bowel movements associated with 'looser' stools and less straining from the child. As a result of this rapid improvement in only ten days, the mother appropriately reduced the dose of senna to 2.5ml/day. Symptoms of constipation continued to improve and the effects of manipulating the sacro-iliac joints and thoracic spine appropriately were maintained over the course of six treatments spread over an eight-week time period. Frequency of treatment then decreased to approximately once every eight weeks.

Follow-Up and Outcomes

After four treatments, the mother reported that for the first time in his life, the child was sleeping throughout the night without waking and routinely passing a stool with no complaint. After six treatments the regularity of bowel movement and associated lack of straining was sustained. Palpatory findings on examination also revealed a large increase in movement and function of the sacro-iliac joints. Medication had been reduced to 1ml/Senna given on alternate days and a daily 6.9g dose of Movicol®. A maintained and continued improvement regarding alleviation of symptoms and regularity of bowel movement is still apparent after 16 weeks.

Discussion

Current literature regarding chiropractic care as a treatment for constipation in the pediatric population is extremely limited, with poor reliability due to the nature of the research. Additionally, there is a distinct focus on the theory of subluxation as a cause for constipation using a combination of high velocity, low amplitude thrusts and activator therapy at the 'site of vertebral subluxation' to resolve constipation.³ The term "subluxation" is traditionally defined by chiropractors as 'an alteration of the biomechanical and physiological dynamics of contiguous structures which may cause neural disturbances.'⁴

More recent case studies respectively claim that 'chiropractic

relieves constipation when areas of misalignment in the lower back and sacral areas are rectified,' and use of the Thompson Technique® to adjust areas in the neck and sacrum can induce a bowel movement, although they do not elaborate on a plausible mechanism.^{5,6} Reports of the use of diversified technique to address vertebral subluxations in the atlas, thoracic spine and sacrum have additionally been made after which 'the mother noted an immediate, dramatic improvement in bowel function of the patient following the first chiropractic adjustment that was maintained thereafter in the form of consistent, normal bowel function after each feed'.⁷

As mentioned above, the conclusions drawn from the literature must be taken with caution due to the inevitable subjectivity and therefore lack of validity associated with the type of research. Nonetheless, the increasing quantity of documentation regarding chiropractic treatment and the effects on pediatric constipation forms an expanding evidence base, which as a result improves the clinical justification of chiropractic as an intervention. As a consequence of this positive response to a conservative approach to the management of constipation, it would seem appropriate to propose a musculoskeletal model for the explanation of the condition in this case. It is therefore postulated that the significant restriction of movement within the sacro-iliac joints of the pelvis were causing the child to experience severe lower back discomfort with the effort of straining and therefore inconsistency associated with the passing of a stool. It is possible that a subgroup of children may have constipation due to a mechanical dysfunction and that removing this dysfunction reduces pain that may have caused the child to 'withhold' the passing of stools. The longer the fecal matter remains in the rectum, the more noxious gas is produced, hence the increasingly unpleasant odour when eventually passed.

Conclusion

Pediatric manipulative therapy was used as a tool to increase movement and therefore function of the spine, which resulted in less pain and a dramatic improvement in the straining, foul smell and difficulty associated with the child's constipation. Despite this, it must be recognised that the evidence regarding this approach to the treatment of constipation in pediatrics remains both minimal and of poor validity, requiring further high quality studies with appropriate subgrouping, in order draw reliable conclusions with clinical applicability. Constipation in the pediatric patient is an important area of interest from both a practitioner and patient perspective.

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