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CHIROPRACTIC CARE FOR INFANTS WITH COLIC: A CASE SERIES

Colic is a paediatric condition of unknown aetiology, which classically develops within the first 4 weeks of life and spontaneously resolving by 3-4 months of age. The author of this case series, Dr. Andrea J. Hipperson, contends that the chiropractic approach views colic symptoms as a consequence of the vertebral subluxation complex and cranial dysfunction, which can be sub-clinical entities resulting from peri-natal trauma or physical stress, the risk of which are greatly increased by several factors. These include *in utero* constraint; rapid or prolonged labour; foetal malpresentation such as occiput posterior, breech, face, brow or transverse delivery; assisted delivery using forceps, ventouse or manual traction and caesarean section.

The stated objective of this case series was to present two case studies in which the complete resolution of infantile colic and associated symptoms was achieved with chiropractic care.

The first case involved a 7-week-old male infant presenting with medically diagnosed colic, with associated reflux and disturbed sleep, all of which were persistent since birth. The mother presented her second-born, very fractious 7-week-old infant to chiropractic practice reporting colic type symptoms since birth. She had previously consulted her general practitioner (GP) and health visitor who both stated, "he will grow out of it". Since birth, the infant had only slept for 25-45 min at a time, from which he would wake screaming and then continue to do so for 4-5 h. As if in pain, he drew his knees to his chest, turned red and became very rigid. These episodes especially occurred after feeding.

The pregnancy was uncomplicated and, at full term, the mother gave birth vaginally with an epidural. Labour was prolonged, the head reported as being "engaged" for 16 h before the second stage of labour commenced, which failed to progress well though the duration was unknown. The foetus became distressed in the final hour, indicated by a low foetal heart rate recording. The foetus was a face presentation requiring forceps. At birth, left sided facial bruising was apparent as well as mild jaundice, the latter of which resolved within 24-36 h. Both the 1- and 5-min Apgar scores were unremarkable. The infant had been breast-fed since birth, always appearing hungry and experiencing reflux. A change to formula-feed did not alter any symptoms. The sucking reflex was intact and the reflux was considered part of the symptom complex often associated with colic.

On examination, the infant appeared healthy. A misshapen head was observed with an elongated anterior to posterior diameter and decreased transverse diameter. From a superior view, the frontal bone was more prominent on the left and the occiput more so on the right. The abdomen appeared bloated and, on examination, revealed focal tenderness in the right lower quadrant in the region of the ileocaecal valve, which caused the infant to scream. All neurological testing was unremarkable and appropriate for the infant's age. Spinal examination revealed upper cervical (C1RP) and mid thoracic (T4 and T8) vertebral subluxation complexes (VSCs) and restricted motion in the right sacro-iliac joint (right posterior sacrum).

The second case, a 10-week-old infant born to a nulliparous mother, presented with maternally diagnosed colic since 5-6 weeks old. Each episode typically lasted from 05.00 to 11.00 p.m. and similarly involved intense screaming with knees drawn to chest, red complexion and body rigidity. In association, non-projectile vomiting was reported every other day and, since birth, a preference to feed on the right breast was also noted with a bias towards left cervical rotation. He had been mainly breast-fed, though, during the day, some formula feed was included in the diet. The evening feed tended to aggravate the symptom complex, though day feeds were uneventful. The infant slept well at night.

A normal pregnancy was followed by a long labour reported to be 36 h in total. The mother's prolonged first stage of labour required her to be induced and foetal delivery was complete 4 h later. The second stage of labour had also failed to progress due to the foetus getting stuck in the birth canal, which coincided with the occiput posterior (OP) malpresentation recorded. The Apgar scores were unremarkable, though the neonate was very quiet at birth and initially was unable to latch onto the nipple, not feeding for 24 h. The mother felt that he had been traumatised during the birth.

On examination, the second infant similarly appeared healthy and had good weight gain. Although a subtle right rotation of the frontal bone with prominence on the left was detected, overall good head shape was observed. Tension was palpated in the diaphragms bilaterally but, on presentation, abdominal examination was otherwise within normal limits. Neurological testing was also unremarkable and appropriate for the infant's age. Spinal examination revealed a similar pattern to the first infant; upper cervical (C1RP) and thoracic (T2-4) VSCs and a posterior sacrum on the right.

Each infant received diversified paediatric chiropractic manipulation to the areas diagnosed as dysfunctional. Treatment was provided over a 3-week period, though the intensity differed for the two infants. In case 1, the infant received chiropractic treatment three times per week for 3 weeks. This consisted of diversified adjustment of C1, T4, and T8 and, occasionally, the right sacroiliac joint. Occipital decompression was also performed as well as a frontal lift and mobilisation of the right sphenoid. After 4 treatments, the colic symptoms had significantly decreased with no prolonged bouts of crying, improved sleep and the infant remaining calm after each feed. After 7 treatments, the reflux had completely resolved and, 3 weeks after the initiation of chiropractic care, the infant was sleeping for 10 h per night and was completely asymptomatic.

Case 2 showed similar trends, though only 6 treatments were provided over a 21-day period, after which the infant was also asymptomatic. Despite a few reports of him being grizzly between 05.00 and 11.00 p.m. during the second week of treatment, no colic episodes occurred after the first treatment. Resolution of the vomiting, hiccups and asymmetrical feeding was also achieved within the 6 treatments. Diversified adjustments were performed at C1, T2-4 (predominantly at T4) and to correct the right posterior sacrum. Cranial work involved occipital decompression and a frontal lift with left rotation. Soft tissue techniques were also used to relax psoas muscle and diaphragm tension bilaterally.

Complete resolution of all presenting symptoms was achieved in both instances. The author does, however, appropriately point out a number of the limitations of this type of descriptive study - The limitation of case reports must be acknowledged, since results are not generalised and thus cannot be applied to the wider paediatric population. Additionally, absence of a control comparison means that placebo cannot be monitored, rendering results unreliable and extrapolation impossible. The parents and practitioner were not blinded to the treatment process, which introduces an inherent bias. The lack of diagnostic criteria for colic, subjectivity of palpation and reliance on parental reporting of symptomatic change as outcome measures, are additional limitations. The difference in demographic data and treatment frequency in the two cases presented should also be acknowledged.

The neurophysiological relationship between vertebral and ANS function is referred to by chiropractors as a somatovisceral reflex, alternatively termed a somato-autonomic reflex or somato-gastrointestinal reflex, a mechanism reported to be successfully demonstrated in several studies. The author suggests that, "A term more pertinent to chiropractic may be a spinovisceral reflex, a subset of somatovisceral reflexes", and that, "The results of this case series supports the existence of this reflex mechanism, but the importance of correct cranial alignment and motion is also emphasised, thus this paper proposes the more comprehensive term, spino-craniovisceral reflex."

The author concludes, "These two cases suggest possible resolution of infantile colic through chiropractic management. It would appear that, in these two cases, there was an acceleration of the natural history (resolution at 3-4 months of age) of this self-limiting condition," and that, "This case series supports the aetiological mechanism of an imbalanced autonomic nervous system, via somatovisceral reflexes secondary to regional cranial and spinal dysfunction. In addition, they provide support towards the birth process being a causative factor in the development of colic."

Reference:

Hipperson AJ. Chiropractic management of infantile colic: a case series. *Clinical Chiropractic* 2004;7:180-6.