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Chiropractic management of breast-feeding difficulties: a case report

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Abstract

Objective: The purpose of this study is to discuss a chiropractic case of management and resolution of breast-feeding difficulties.

Clinical Features: The case involves an 8-day-old baby unable to breast-feed since 4 days old. Initial examination revealed cervical, cranial, and sacral restrictions. She was diagnosed with craniocervical syndrome by a doctor of chiropractic.

Intervention and Outcome: Following history and examination, the infant received gentle chiropractic manipulation based on clinical findings. Immediate improvement and complete resolution of the nursing problems were observed after 3 treatments over 14 days.

Conclusion: The results of this case suggest that neuromusculoskeletal dysfunction may influence the ability of an infant to suckle successfully and that intervention via chiropractic adjustments may result in improving the infant's ability to suckle efficiently.

Introduction

Recently, more attention is being given to feeding problems where the infant itself is the cause, which is estimated at 59%.[1] In the past, unless there were clear medical problems concerning the infant, their suckling capacity was often not examined.[1,2] Care from health institutions involved with breast-feeding problems is collaborating better and is getting more involved with all aspects that can go wrong with breast-feeding, including an infant's suckling capacity.[3]

Infant feeding problems are seen as an important problem, as the health benefits of breast-feeding are well established in these days.[4-7] Even with the improved care and collaboration, breast-feeding often goes amiss. On average, half of all 6-month-old infants receive breast milk, of which just 12% receive full breast milk.[8] Breast-feeding problems need to be

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addressed quickly to increase the possibility of success. Collaboration between all the different professions is therefore paramount, and chiropractic can be a part of this as is shown in this and other cases. This study reports on the results of chiropractic care for an infant with dysfunctional suckling and offers theories for how chiropractic care may restore normal suckling.

Case report

An 8-day-old infant presented with breast-feeding problems. These consisted of poor latching on, quickly pulling away, weak/poor vacuum, and a desire for nonnutritive suckling; and the mother had painful nipples from the infant's feeding behavior. In the first 4 days after birth, there were no problems. On the fifth day, there arose a preference for the left breast; and on the sixth day, the breast-feeding failed completely. The infant also exhibited scratching of the face, restlessness, making fists, frowning, and a hyperextended posture. The parents started offering bottles with expressed milk and hypoallergenic formula.

The fetus was fully engaged with 38 weeks and was born at 41 weeks in the hospital as was planned. The mother's membranes were broken and stripped because the contractions did not progress enough in strength. The total duration of the labor was 6½ hours; the first stage took 6 hours and 15 minutes. When cervical dilation was complete, it was followed by 3 contractions (<13 minutes). During the second contraction, shoulder dystocia occurred, whereby a great deal of traction had to be put upon the infant's neck manually during the third contraction.

Physical examination revealed a calm, large, and apparently healthy baby. Cervical movements were restricted in all directions. Abduction of the arms was decreased bilaterally. Sacral extension was diminished from S1 up to the coccyx. Movement of the temporomandibular joint (TMJ) was limited. In the cranium, the palate, sphenoid frontal, parietal, and occipital bones had restricted motion. The working diagnosis was craniocervical syndrome,[6,9-11] with possible secondary dysfunctional suckling.

In the first and second treatments in the first week, C1, the TMJ, and the coccyx were treated with gentle chiropractic manipulation. Cranial treatments included light fingertip contacts applying pressure to specific sites of the cranium that were found to have decreased movement[12] Toggle recoil technique was applied to the restricted areas of the spine or TMJ, performed using fingertip contact. The toggle mechanism is a double lever system hinged together to afford a mechanical advantage to the levers.[13] By the third and fourth treatments in the second week, there were no motion restrictions found in the cervical spine, arms, or sacrum. The TMJ and cranium were still limited in movement. During these 2 visits, the TMJ was treated again with specific adjustment; and cranial adjusting was applied.

After the first treatment, there was moderate improvement in suckling continuity. After the second treatment, latching on improved, suckling continuity continued to increase, but the letdown reflex had not yet become brisk. After the third treatment, the suckling continuity and latching on were so markedly improved that the letdown reflex also improved. By this time, cervical motion was fully restored. By the fourth treatment, the breast-feeding was not problematic. The parent provided consent for the publication of this case report.

Discussion

When considering injuries and dysfunctions of the pediatric spine and its associated structures, the significance of birth trauma is often underestimated; and the resulting symptoms are frequently misinterpreted.[10,14] During the delivery, the infant's cranium and neck experience various stressors. These can be withstood because of a number of special biomechanical and anatomical features that enable it to adapt to the demands of the birth process.[10,14,15] A normal birth can nevertheless cause subtle traumas in the infant's spinal column and/or cranium. Complicated deliveries can increase the risk of these traumas. Examples include in utero malposition, malpresentation, epidurals, the use of vacuum, forceps, or cesarean delivery.[2,10,14,16]

The working diagnosis of cervicocraniomandibular syndrome indicates the known relation between the jaw, cranium, and cervical spinal column.[6,9-11] These 3 structures and their functions have a great influence on the course of breast-feeding. When a spinal or cranial lesion occurs, this can interfere with the nerve supply to anatomical components such as those of the suckling mechanism.[17] Chiropractic treatments correct restrictions of motion in joints and stimulate optimal function of the nervous system, thereby influencing physiologic processes.[18] Chiropractic treatments may thus correct dysfunctional suckling by eliminating the lesion, thereby restoring normal

neurological communication between the central nervous system and the suckling mechanism.

Coordination between the perioral muscles and the function of the TMJ is important for the suckling mechanism. Restriction of motion in the TMJ or hypertonicity of the muscles that control this joint can interfere with the infant's ability to latch on or to create a vacuum, and it can cause the infant to have pain during feeding.[6,15,19,10,11] In this case, a restriction of movement of the TMJ was present. Only after the motion of the TMJ completely restored was a complete recovery of normal breast-feeding function observed, again implying the importance of optimal function of the craniocervical system.

Successful breast-feeding also depends on adequate neural conduction. The suckling reflex is normally present at birth, along with the power to swallow and suckle. There are 3 cranial nerves that are responsible for these functions: The glossopharyngeal nerve controls the muscles of the pharynx, the vagus nerve controls the palate, and the hypoglossal nerve governs the tongue. A reduction in function of these 3 cranial nerves can potentially result in suckling problems.[2,6] It is conceivable that if the function of the glossopharyngeal nerve for example is not optimal, then the suckling will also be compromised.

There are 3 proposed mechanisms for a lessening of neural function that were reviewed by Hewitt.[2] Abnormal movement of the cranium may lead to neurological dysfunction, influencing cranial nerves or the medulla. Nerve dysfunction has been shown to decrease nerve conduction velocities, decrease axoplasmic flow, and create motor disturbance in related muscles.[2,20,21] For example, abnormal movement in the occiput can decrease the function of the hypoglossal nerve, which could potentially result in a lessening of proper tongue movement and function.

In this case, breast-feeding failed; but in general, there was a great desire for nonnutritive suckling. A probable explanation for the great desire for nonnutritive suckling can be related to the presented decreased cranial movement. This could be transiently increased by movements of the cranial bones that occur as the baby suckles, either nutritively or nonnutritively.[22] Cranial movement can also be influenced by the application of a cranial adjustment.

Secondly, Hewitt[2] reviews somatoautonomic reflexes in association with breast-feeding. Decreased cervical movement may cause somatoautonomic reflexes to arise and influence the sympathetic nervous function.[23-25] The sympathetic nervous system regulates blood flow of the cranial vault. Hence, abnormal function can decrease circulation and proper function of the relevant cranial nerves. Furthermore, the superior cervical sympathetic ganglia contain direct communication with the glossopharyngeal and vagal ganglia and the hypoglossal nerve.[26,27] Somatoautonomic reflexes due to cervical problems may affect these sympathetic ganglia, leading to alterations in the 9th, 10th, and/or 12th cranial nerves.

The third malfunction that can influence the neurology of the suckling reflex regards the dura mater.[2] The dura has connections with the cranium,[28] the first cervical vertebra,[29-31] and the sacrum.[31-33] Consequently, suboptimal physiology of one of these structures can increase the tension on the dura mater and cause neural dysfunction of the involved cranial nerves as they exit the dura mater.

The trigeminal nerve contains sensory fibers from the palate, tongue, lower jaw, nose, and motor fibers that control some muscles used in mastication. This makes the convergence mechanism of the trigeminal tract another important component in successful breast-feeding. This was reviewed by Biondi[34] and by Alix and Bates.[29] Sensory information in the descending tract of the trigeminal nucleus works together with the sensory nerves of the upper 3 cervical (C1-3) nerve roots. This functional convergence mechanism of sensory information makes pain referral possible between the cervical structures and the trigeminal sensory innervations of the face and head. Dysfunction of one of these structures can potentially be a cause of discomfort during breast-feeding, as the cranial and neck movements can irritate the dysfunctional segments potentially causing facial pain.

During breast-feeding, the infant also has to be capable of good cervical range of motion without this causing discomfort or pain in the neck or head. A reduction in cervical range of motion as a result of arthrogenic or muscular assault at birth can result in a baby not being able to latch on properly, simply because the baby cannot adapt a comfortable posture with the head and neck.[6,11] These discomforts can lead to the baby becoming restless and repeatedly having to latch on, which can create frustration for the mother. This all contributes to the vicious circle of mother's instinct, will power, emotional disappointment, and loss of control that nursing mothers frequently experience and that is important to break out of.[7]

Motion restrictions in joints are improved through chiropractic treatment and can promote optimal function of the nervous system.[18] The breast-feeding problem in this case seemed to improve with chiropractic care, which indicates that other cases

similar to this one may also benefit from chiropractic care. In addition, collective clinical experiences demonstrate that chiropractic intervention may be helpful in the promotion of the success of breast-feeding.[2,6,15,35,36]

Limitations

Health claims made by practitioners regarding the application of chiropractic manipulation as a health care intervention for pediatric health conditions are, for the most part, supported by low levels of scientific evidence. No statistically significant conclusions can be drawn from these studies or from this case study. Therefore, no causal relationship can be drawn between treatment and outcomes. It is possible that the infant improved despite the care given. There is a need for more rigorous scientific inquiry to examine the value of chiropractic therapy with these problems.

Conclusion

This case demonstrated that an infant with breast-feeding problems improved under chiropractic care. Multiple regions of the neuromusculoskeletal system that did not optimally function were noted during the examination. After several chiropractic treatments, the dysfunctions resolved and suckling improved. Breast-feeding has a complex functional mechanism. The entire neuromusculoskeletal system, jaw, neck, cranium, and nervous system, must function properly and work in harmony for optimal breast-feeding.

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