Morristown Medical Center
ATLANTIC HEALTH SYSTEM

Identifying Somatic Dysfunctions Associated with Feeding Difficulties and Poor Latch

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Background/ Hypothesis

The process of being born can be lengthy and traumatic for infants causing musculoskeletal problems. Birth is closely followed by the newborn's instinct to latch and feed at the breast which is a delicate process requiring coordination and stabilization of muscles, joints, fascia, and nerves.

Breastfeeding is an essential element for newborn development that plays a role in health protection, mother and child attachment, as well as disease prevention. It is considered the normative standard for newborn and infant nutrition, with numerous benefits for both mother and baby [1]. The American Academy of Pediatrics recommends exclusive breastfeeding for six months, followed by continued breastfeeding for one year or more while complimentary foods are introduced [1]. Although most infants are breastfed for some time, the majority do not meet the recommended goals. In the United States, the percentage of newborns exclusively breastfed through three months and six months of age is 47.5% and 25.4% respectively based on CDC's 2016 data [2].

Osteopathic studies have sought to identify somatic dysfunctions that hinder adequate and efficient feeding at the breast including cranial, cervical, lumbar and sacral dysfunctions, cranial nerve impingements, and connective tissue restrictions. The goal of our research is to identify the most common somatic dysfunctions in our office's population of newborns presenting with difficulty feeding at the breast.

Methods

This research is a retrospective study in the primary care setting. We identified newborns who were evaluated for feeding difficulties and treated with osteopathic manipulation, and reviewed the documented somatic dysfunctions identified in their corresponding visits. Our sample size is 50 patient encounters.

Inclusion criteria:
- First year of life
- Born at any gestational age
- Nutrition from nursing at the breast

Exclusion criteria:
- Presence of chromosomal abnormalities or neuromuscular disease

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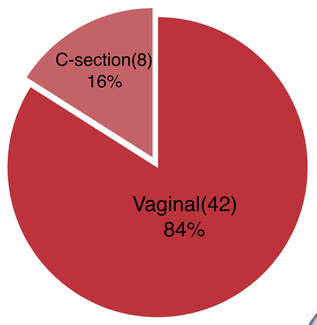
Results

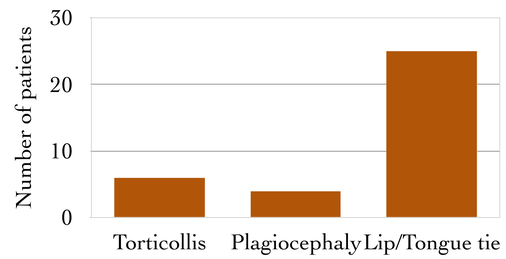
Our results show that somatic dysfunctions were seen in all of our infants who had difficulty feeding at the breast.

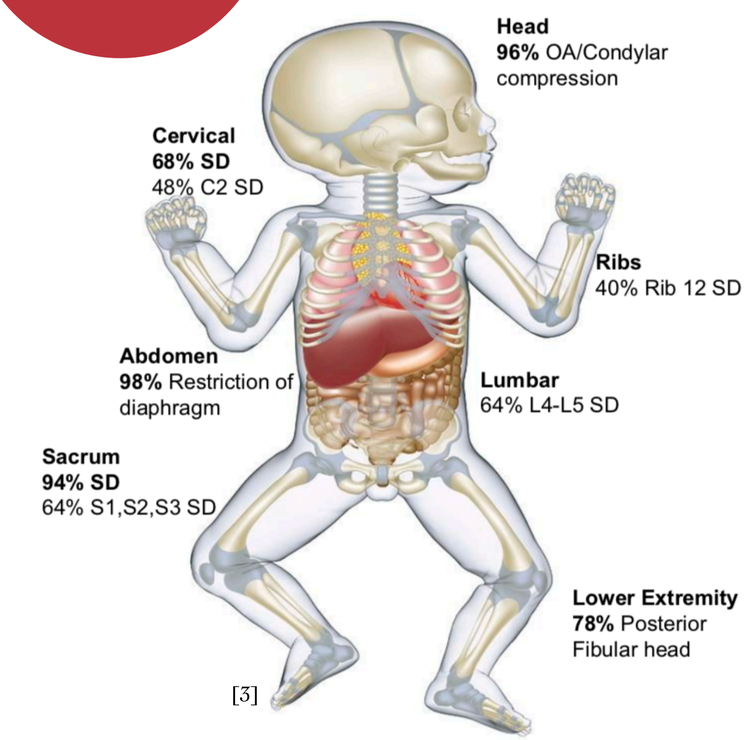
50 patient encounters
Aging from newborn to 8 months of age
Born at 37 weeks and later

Delivery Method



Structural Findings





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Discussion

During labor, compressive forces direct the newborn's skull, via contractions, into the mother's pelvis followed by the flexion, internal rotation and extension of the neck through the birth canal for successful delivery. These motions are linked to the OA and condylar compression somatic dysfunctions seen in 96% of our newborns. Normal condylar function is essential as it impacts nearby structures such as the jugular foramen, which allows passage of cranial nerves IX,X, XI (glossopharyngeus, vagus and accessorius) [4]. These nerves are responsible for motor functions needed for the"suck and swallow" physiology. Somatic dysfunction at the occipital condyles also impinge upon the hypoglossal canal which carries the hypoglossal nerve–responsible for-tongue muscles needed-in latching and sucking. Additionally, the cervical motions during fetal delivery account for the 48% C2 somatic dysfunctions that were unable to normalize after delivery due to the presence of other strain patterns and restrictions including the OA.

The strain pattern of the sacrum is closely related to those within the head through the core link of the dura matter which attaches to the foramen magnum and the second sacral segment. This is represented by the 94% sacral somatic dysfunction seen in our newborns that would require the release of the condyles before the sacrum responds and regains function [5].

The abdominal diaphragm is compressed through the birth canal ,-seen in 98% of our newborns' somatic dysfunctions. The abdominal diaphragm is a muscle that originates from the lower 6 costal cartilages, xiphoid process and L1-L5 vertebrae and inserts in the central tendon of the diaphragm. Any restrictions in the diaphragm will alter structure and function of the ribs, thoracic and lumbar spine which were seen in our newborns. The abdominal diaphragm restriction is likely the cause of the rib 12 SD seen in 40% of our newborns, and rib 12 can also be manipulated to influence diaphragmatic motion.

Finally, 78% of our newborns presented with a posterior fibular head somatic dysfunction which is likely not related to feeding difficulty but a restriction that is due to intrauterine positioning [6].

Conclusion

The trauma of birth, vaginal or C-section, results in musculoskeletal strains and somatic dysfunctions that were seen in our newborn population leading to difficulty feeding at the breast, which is intricate and essential, requiring complex coordination. Identifying these common somatic dysfunctions can help us identify warning signs in newborn exams that can predict nursing difficulty, and early treatment of these dysfunctions may help support meeting breastfeeding goals. We can also use this information to focus on treating women prenatally in order to achieve less traumatic birthing experiences for their newborns.

We predict that the somatic dysfunctions seen in our population are generalizable to the general population of infants with difficulty feeding at the breast. Osteopathic treatments can serve to facilitate the feeding process and help in achieving optimal health benefits. Future research can focus on creating a protocol to treat newborns immediately after delivery and monitoring for complications involving latching and feeding at the breast.