CASE STUDY

Resolution of Breech Presentation and Successful Vaginal Birth Following the Webster Technique: A Case Study & Selective Review of the Literature

Danielle Drobbin, DC[1] & Londee Zink, DC[2]

Abstract

Objective: The purpose of this case study is to discuss the outcome of a pregnant patient presenting with a frank breech fetal presentation following chiropractic adjustments.

Clinical Features: A 33-year-old nulliparous female presented to the chiropractor at 29-weeks pregnant. A frank breech position of the fetus was confirmed with ultrasound by her obstetrician.

Intervention and Outcomes: The patient was analyzed and adjusted utilizing Webster and Diversified techniques over the course of 9 weeks. The patient received nine adjustments before obstetrician confirmed vertex positioning of the fetus. The patient went on to have a successful, natural, vaginal birth with no reported complications. This is the patient's first vaginal birth.

Conclusion: The patient was able to avoid medical intervention such as cesarean section and underwent a natural, vaginal birth with no complications.

Keywords: *Webster Technique, vertebral subluxation, breech, pregnancy, chiropractic, adjustment, intrauterine constraint*

Introduction

Complementary and alternative medicine (CAM) continues to grow in the United States. According to the study by Eisenberg, alternative medicine practitioner use skyrocketed from 427 million in 1990 to 629 million in 1997.[1] Chiropractic is not only the most popular of the alternative approaches, the most popular age range is women of childbearing age.[2] In the United States, approximately six million pregnancies occur yearly and 875,000 women experiencing one or more compliications.[3] Understanding these parameters makes providing alternative healthcare options crucial to undertake or resolve these issues and complications.

Breech fetal presentation accounts for 3-4% of pregnancies at term.[4] According to cohort studies, in general, planned caesarean section is better than planned vaginal birth for the fetus that presents as a breech at term.[5-6] Fetal presentation is diagnosed with Leopold maneuver, pelvis examination, ultrasonography or other imaging techniques. These techniques are utilized to determine fetal positioning as early as 28-weeks gestation. The desired fetal position is vertex position and is when the fetus is head down in the pelvic canal with occiput anterior. Feet or buttocks appearing first is when a fetus is termed breech. It is important to note that 7% of all fetuses are breech at 32 weeks.[4]

1. Private Practice of Chiropractic, Atlanta, GA
2. Private Practice of Chiropractic, Steamboat Springs, CO

Breech presentations rarely spontaneously reposition to cephalic presentation beyond 34 weeks of pregnancy and because of this, 80-100% of breech presentations are delivered by caesarean section.[6] According to a randomized control study, maternal morbidity was higher among women delivering by cesarean section and concluded that selective management protocols under controlled conditions are reasonable alternatives to elective cesarean section. Relatively few women wish to have a caesarean section when asked in early pregnancy.[7] The Term Breech Trial was conducted to determine benefits to a planned cesarean section versus a planned vaginal delivery. The study included 2088 women with a fetus in a frank breech presentation. The women were randomly assigned to planned cesarean section or planned vaginal birth. According to the results, there was a lower neonatal morality or serious neonatal morbidity in the planned cesarean group than in the planned vaginal birth group.[8] Natural birthing processes should be explored first in order to give the neonate and mother the best outcomes.

External cephalic version (ECV) is a procedure performed by the obstetrician to avoid cesarean section. During ECV the baby is manipulated by pressure through the female's abdominal wall into a cephalic (head-down) position.[9] Late in the third trimester around 34 weeks, many women may have chosen planned cesarean section medically if the fetus remains in breech position and ECV as a management technique is normally offered at 36 weeks.[10] Since ECV is not offered until 36 weeks, two weeks after planned cesarean section, it is apparent that the medical community does not employ ECV as the first option for breech management based on this timeline.

Alternative options for repositioning a baby to avoid cesarean section are available and several women will seek these modalities. These alternative options include ginger paste, moxibustion, homeopathic remedies, hypnosis, and yoga.[11] The Webster Technique focuses reducing subluxations of the spine and pelvis. Chiropractors utilize this technique to reduce the effects of subluxation, improve function throughout the central nervous system, and prepare the mother for birth. Difficult labor and slow progress can lead to intervention during the birth process.[12] Dystocia may have positive outcomes following sacral adjustments and Webster Technique.[13]

Case Report

Patient History

The patient is a 33-year-old female presenting to the chiropractic office at 29 weeks' gestation with a breech fetal malposition diagnosed by her obstetrician via ultrasound. The patient in question was pregnant with her first child. The patient presented with the desire to have a vaginal birth.

Chiropractic Examination

An orthopedic examination of the patient revealed no positive tests for the lumbar or sacral regions. The patient was also assessed via static and motion palpation. Hypertonicity and end point tenderness was noted in the lumbar region. Motion palpation revealed multiple subluxations and muscle spasms in the sacral and cervical areas.

Surface electromyography (sEMG) is a surface electrode technique that measures paraspinal muscle tension. The technique uses electrodes on the overlying skin to read differences in muscle tension and to evaluate myotonic dysfunction. The sEMG readings are utilized to support findings indicated on the physical examination. This evaluation is done paraspinally at 15 anatomically paired sites and compared to a programmed normative database. There are three factors that sEMG scans interpret; amplitude, symmetry, and frequency. Amplitude is the signal level measured in microvolts. The higher the signal the greater the amount of muscle activity is in that area. Symmetry is comparing the amplitudes from left to right at each spinal level.[14] Finally, frequency is measured in Hertz and evaluates frequency of the EMG signal. The patient's results showed high muscle tension at C1 on the left, C3 on the right, T4 on the left, T10 on the left, and S1 on the right. (See Figure 1)

A paraspinal thermal scan was used to measure differences in temperature along the spine to evaluate sympathetic nerve function. The use of thermography is based on the presence of temperature asymmetries between the involved area of innervation and the corresponding area on the opposite side of the body.[15] Nerve impairment is detected from significant temperature difference between corresponding sites on opposite sides of the body.[16] The peripheral nerve impairment is specifically part of the sympathetic nervous system. Skin temperature is altered when there is a disturbance in the sympathetic nervous system. Vasculature throughout the body including the blood supply to the skin is controlled via the sympathetic nervous system. Interference to this system causes temperature changes along the skin which is supplied by this vasculature. Insight™ technology is the paraspinal thermal scanning that was used for the assessment. Infrared sensors compare temperatures at 25 anatomical points and are compared to a database of normal limits within the Insight system. The analysis is determined by two factors; symmetry and pattern. Symmetry is the difference in temperatures from left to right at the same spinal level. Depending upon severity of temperature difference, the values assigned are mild, moderate, and severe based on deviations from a normative database within the system. The patient had severe asymmetry at C1 on the right and moderate at C4-T1 on the right. (See Figure 2)

Chiropractic Analysis & Intervention

The patient was analyzed using the Webster Technique analysis. This process begins with the patient lying prone on a pregnancy pillow. The pregnancy pillow is a specialty pillow developed by the International Chiropractic Pediatric Association (ICPA) which allows the patient to lie comfortably on her stomach without causing harm to the fetus. Leg Lag is then checked with the knees flexed past 90 degrees approximating the feet to the buttocks simultaneously and feeling for the leg with most resistance. The leg with greatest resistance indicates the side of sacral rotation. This patient had a left leg lag indicating sacrum rotating to the right. A specific and light posterior to anterior force with a medial torque was applied to the left side of the

sacral base in order to correct sacral rotation. Next, a soft tissue assessment of the round ligaments is performed. The patient lies supine with her belly up and the pregnancy pillow is removed from the table. The chiropractor palpates for taut muscle fibers or nodules along each ligament. The taut ligament is usually found on the opposite side of sacral rotation. The patient had taut fibers on the right round ligament. A light inferior to superior pressure with thumb-thumb reinforcement was applied to the right round ligament to release tension in the area.

Analysis of atlas, the first vertebrae in the spine, was used to obtain a Gonstead listing. A listing is obtained by analysis through static and motion palpation and detects the direction of travel of a misaligned vertebrae. Specifically, atlas listings include four letters. An example of an atlas listing would ASRA indicating the vertebrae with anterior, superior, right and anterior with respect to the vertebrae below, in this case, axis. After the listing is established, the chiropractor is able to deliver the adjustment in the correct line of drive.

The care plan for the patient was one time a week for assessment. Gonstead and Webster analysis systems were used as described above. The following nine visits, the patient presented with the same subluxation pattern and an adjustment to C1 and sacrum were delivered.

Chiropractic Care Outcome

The patient was analyzed utilizing Webster and Gonstead techniques and adjusted over the span of nine weeks for a total of nine adjustments. On the ninth visit, the patient reported that the fetus was now in cephalic vertex position as determined by her obstetrician via ultrasound. The patient went on to have a vaginal delivery under the guidance and supervision of her midwife. There were no stated complications with the birthing process.

Discussion

The Webster Technique

Webster Technique was developed by the founder of the ICPA, Larry Webster, D.C. The ICPA defines Webster Technique as, "a specific chiropractic analysis and diversified adjustment. The goal of the adjustment is to reduce the effects of subluxation and/or sacroiliac (SI) joint dysfunction. In so doing neurobiomechanical function in the sacral/pelvic region is improved."[17] The ICPA is a non-profit organization that specializes in pediatric and Webster certification. Webster Technique may have significant effect on the causes of dystocia based on the improvement of function within the SI joint. Sacral misalignment contributes to the main causes of dystocia via uterine nerve interference, pelvic misalignment, and the tightening and torsion of specific pelvic muscles and ligaments.[13] These effects have been documented within several case studies. (Table 1) Facilitating balance in the pelvis, reduces interference to the nervous system and improves pelvic muscle function.[18] Restoring balance and function of pelvic muscles removes in-utero constraint and allows for the fetus to get into the best possible position for birth. The importance of preventing intrauterine constraint and subsequence cesarean section delivery is crucial considering the United States have some of the highest rates of obstetric intervention in the world.[19-21] The Webster Technique is within the scope of chiropractic practice because it is a specific sacral adjustment to correct subluxation. Chiropractors work at co-managing pregnant patients with their midwives and medical doctors. The Webster Technique has no direct hands-on contact with the developing fetus nor does it attempt to change the position of the fetus.[17]

During pregnancy and parturition, the ligaments of the pelvis relax in order to permit a spreading of the bones in the pelvic bowl.[22] Throughout this period the sacrum can move multidirectional for 1-3mm.[23] There are three major ligaments suspending the uterus: the uterosacral, ovarian, and round ligaments. The location of the uterus is dynamically positioned by the stretch of these ligaments. The sacral rotation is addressed in the Webster Technique with the adjustment to the sacral base. The ligamentous attachments on the sacrum may cause a biomechanical effect on the ligament by releasing tension that may be associated with sacral rotation. Pressure is asserted in a light manor on the round ligament in the second step of the Webster Technique. The round ligament passes form the lateral uterus, through the internal abdominal ring, and along the inguinal canal to the labia majora.[24] The round ligament plays a major role in uterine support as it limits posterior movement of the uterus, thus, maintaining the normal anterior uterine position.[18] Myofascial trigger point therapy is performed on the round ligament to release any palpable nodules allowing the ligament and surrounding musculature to relax. Webster Technique assessment allows restoration of neuro-biomechanical function through correction of SI joint subluxation.

Chiropractic Review of Literature

Musculoskeletal conditions including pelvic instability may occur during pregnancy leading to a complaint of low back pain. Chiropractors are well known for their ability to relieve low back pain and thus pregnant women seek chiropractic care for this reason. Numerous case studies have documented that chiropractic care through pregnancy may reduce the occurrence of cesarean section that would be performed due to dystocia caused by abnormal fetal presentation.[25-39] One case study involves a 37-year-old female receiving Webster adjustment at 35-weeks pregnant with her third child. Chiropractic care was given utilizing Webster Technique and pre and post ultrasounds confirmed the transition of the fetus from a breech to a vertex position.[35] Multiple case studies on Webster Technique had positive results to address pelvic instability through sacral subluxations and associated trigger point therapies (Table 1). These results show breech pregnancies to be positively affected when sacral subluxations were analyzed and adjusted utilizing Webster Technique. These women avoided having elective or planned cesarean sections, which is the most common medical approach to a breech presenting fetus.[4,25-39] Included in these case studies are nulliparous and multiparous women ranging from 24 to 41 years of age and averaging 33 weeks pregnant. Webster Technique had positive results with multiple fetuses and after only one visit.[26,27] These studies represent a wide range of

presentations that are associated with pregnancy and the effectiveness of Webster Technique.

Limitations

As with all case reports, caution is suggested due to the generalization of the case reported. The lack of a control group, spontaneous remission, self-limiting course and natural history of the disorder, subjective validation, and expectations for clinical resolution on the part of the patient make cause and effect inferences challenging. This study is limited by the fact that it is based on one individual's experience with the Webster Technique. The patient only underwent nine weeks of care and no post instrumentation was performed. According to some sources, rates of version have varied from 0% to 33% and are more likely to occur prior to 34 weeks, while few will do so after that.[40] A larger inclusion study involving more women and chiropractors could bring more validity to the current research on Webster Technique. It is suggested that the Webster Technique be further studied in its effectiveness in relieving intrauterine constraint and ultimately the desired outcomes in pregnancy.

Conclusion

The patient presented with frank breech presentation. Utilizing Webster Technique during her pregnancy helped to reestablish normal sacral biomechanics of the female through sacral adjustments and trigger point therapy. After nine chiropractic adjustments, the fetus was confirmed to be in vertex position and the patient went on to have a natural vaginal birth with no complications. This single case study of one woman's experience with Webster Technique will contribute to the current research available on Webster Technique. More in depth research is necessary in order to evaluate the role of Webster Technique.

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Title	Author(s)	Journal
Resolution of breech presentation confirmed by ultrasound following Webster's technique	Miranda Abbott DC	Journal of Pediatric, Maternal & Family Health - Chiropractic
Resolution of Transverse Breech Presentation Confirmed by Ultrasound Following Webster Technique to Reduce Subluxation	Megan Afshar DC	Journal of Pediatric, Maternal & Family Health - Chiropractic
Resolution of a Twin Breech Presentation with the Application of Webster and Diversified Chiropractic Technique	Danita Thomas Heagy, DC & Shawn Wrubel, DC	Journal of Pediatric, Maternal & Family Health - Chiropractic
Resolution of Breech Presentation and Successful Vaginal Birth Following Administration of Webster's Technique: A Case Study	Pamela Stone-McCoy DC, CACCP, Melissa Sell DC, & Krystal Drwencke DC	Journal of Pediatric, Maternal & Family Health – Chiropractic
Resolution of Pain and Breech Presentation Following Subluxation Based Chiropractic Care: A Case Report and Update of the Literature	Tiffany Juergens Clark, DC & Joel Alcantara, DC	Journal of Pediatric, Maternal & Family Health - Chiropractic
Resolution of Breech Presentation Following Application of Webster Technique: A Case Report	Helya Dashtkian DC & Heather Whittle-Davis DC, FICPA, CCEP	Journal of Pediatric, Maternal & Family Health - Chiropractic
Successful Clinical Outcomes Confirmed via Ultrasound in a Patient with Placenta Previa and Breech Fetal Presentation with Chiropractic Care	John Edwards DC & Joel Alcantara, DC	Journal of Pediatric, Maternal & Family Health - Chiropractic
Resolution of Breech Presentation after Application of Webster Technique in a 35 Year Old Female: A Case Study	Karen Ferguson, D.C., FICPA. & Gret Kulesza, D.C.	Journal of Pediatric, Maternal & Family Health - Chiropractic
Resolution of Breech Presentation Using an Activator Adjusting Instrument to Administer Webster's Technique in Three Women Undergoing Chiropractic Care	Drew Rubin, DC, CCSP, DACCP	Journal of Pediatric, Maternal & Family Health - Chiropractic
Chiropractic Care of a Pregnant Patient Presenting with Intrauterine Constraint Using the Webster In-Utero Constraint Technique: A Retrospective Case Study	Danielle Drobbin, DC, Claire Welsh, DC	Journal of Pediatric, Maternal & Family Health - Chiropractic
Resolution of Breech Presentations Following Adjustment of Subluxations Utilizing the Webster Technique: A Case Series	Joel Alcantara DC, Sal Martingano DC, Vivian Keeler DC, Liselotte Schuster DC, Jeanne Ohm DC	Journal of Pediatric, Maternal & Family Health - Chiropractic
Resolution of Breech Presentation Confirmed by Ultrasound Following the Introduction of Webster Technique	Pamela Stone-McCoy, DC, CACCP & Margaret Sliwka, DC	Journal of Pediatric, Maternal & Family Health - Chiropractic
Resolution of Transverse Breech Pregnancy Following Administration of Chiropractic Using the Webster Technique: A Case Study & Selective Review of the Literature.	Danielle Drobbin, DC & Sara LaRosa, BS, DC	Journal of Pediatric, Maternal & Family Health - Chiropractic
The Webster Technique in a 28-year-old woman with Breech Presentation & Subluxation.	John C. Thomas DC	Journal of Vertebral Subluxation Research
Resolution of Breech Presentation Confirmed by Ultrasound Following Webster Technique: A Case Study & Review of Literature	Jason Cherry, DC & Natalie Wilson, DC	Journal of Pediatric, Maternal & Family Health - Chiropractic

Table 1: Chiropractic Articles – Case studies involving the use of Webster Technique.

Figure 1: Initial sEMG scan.

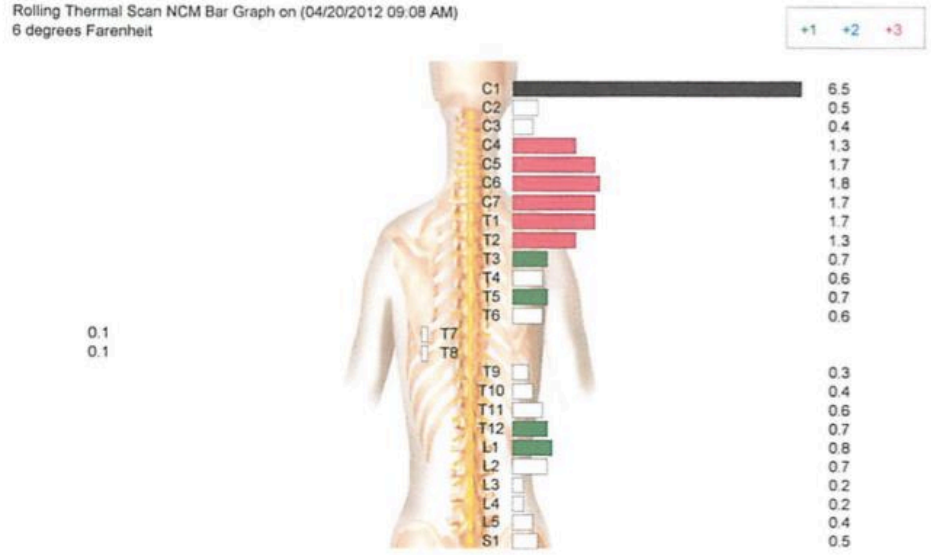

Figure 2: Initial thermal scan.