CASE STUDY

Resolution of Breech Presentation after Application of Webster Technique in a 35 Year Old Female: A Case Study

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Abstract

Objective: The chiropractic care of a woman with a breech pregnancy using the Webster Technique is described.

Clinical Features: A 35 year old woman presented to the office during the 30th week of her second pregnancy after her doula determined that the fetus was in breech position.

Intervention and Outcome: The patient was evaluated via Webster Technique which revealed a sacral subluxation and trigger points along the round ligament. She was adjusted using a drop mechanism table followed by effleurage trigger point therapy and home exercises. After four adjustments the fetus was determined to have turned from transverse breech to vertex position. She reported a successful vaginal birth.

Conclusion: Chiropractic care was administered to a pregnant patient with a breech presentation using the Webster Technique. Post ultrasound confirmed the vertex position and cesarean section was avoided.

Key Words: *Chiropractic, Webster Technique, pregnancy, breech presentation, intrauterine constraint, sacral subluxation*

Introduction

A study on breech pregnancies among 28 countries revealed that they are somewhere between 3-4% of all pregnancies.[1] It has been argued that in the case of a breech presentation of the fetus it is safer to attempt a cesarean section versus attempting a vaginal delivery. Studies show that even though there is a 45% chance of breech presentations spontaneously turning after the 35th week of pregnancy, up to 87% of breech pregnancies are still delivered via caesarian section.[2,3] Ford et al stated in their paper that according to a study published in the *American Journal of Obstetrics and Gynecology* the number of caesarian births has been slowly increasing in the last decade.[3]

Although cesarean section deliveries were determined to be safer than vaginal deliveries in a case of a breech presentation they do not come without severe maternal risks. In a study of 2,088 women with a singleton fetus, 3.6% undergoing cesarean section had reported severe morbidity. [3]

Maternal morbidity included serious extension to transverse uterine incision, wound infection, systemic infection, postpartum fever, pneumonia and early post-partum depression.[3] All of the above morbidities had a higher prevalence than with a planned vaginal birth.

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Fetal morbidity included clinical chorioamnionitis, fetal heart-rate abnormalities, difficulty with delivery, birth trauma, spinal cord injury, skull fracture, brachial plexus injury, long bone fracture, significant genital injury, and respiratory problems after pre-labor cesarean birth.[1,2,4]

Due to increased maternal risks during and post-partum, and increased costs associated with cesarean section, women are looking for alternative methods to eliminate the need for this high risk procedure.[5,6] It has been reported that complementary and alternative medicine has been most prevalent among educated women of reproductive age. Chiropractic care ranked 2nd for effectiveness among polled OBGYN physicians in the United States and 7th of 30 in polled patients for obstetric and gynecologic problems.[7]

Webster's technique has been used by chiropractors since the late 70's to aid gravid females in restoring proper pelvic function and in many cases allowing the fetus to return to vertex position after being breech in the third trimester.[8] The technique consists of a chiropractic sacrum adjustment and release of trigger points in the abdomen.[8]

The patient is prone and sacrum posteriority is determined by bending the legs at the knees and approximating them to the buttocks. The leg displaying more lag is considered to be the side of sacrum posteriority. The patient is adjusted either prone via a specific, high amplitude, low force adjustment using a drop mechanism table or in a side posture position. Both ways utilize a sacral base contact on the side of the posteriority. The legs are then re-checked to confirm that the sacral subluxation has been corrected.[8,9,10] In doing so, pelvic biomechanics may be normalized and allow the fetus the opportunity to move into the favorable vertex position.[11] This case study describes the care of a patient with Webster technique.

Case Report

Patient History

The patient was a 35-year-old pregnant female in the 30th week of pregnancy. She was an overall healthy woman with a history of a healthy diet, no major trauma except for a fractured foot 10 years ago and gallbladder and appendectomy 8 years ago. She had been under regular chiropractic care for the last two years prior to presentation for low back pain and headaches with favorable results.

She presented to a chiropractic office for care after being told her fetus was in the breech position by her doula. It has not been determined what method was utilized by the doula to determine the position of the fetus. Until this point she had not had an ultrasound to visualize the position or sex of the fetus. This was her second pregnancy with the first being four years ago. Her first child was delivered vaginally without any complications.

Chiropractic Examination

Upon examination, postural abnormalities were present consisting of a high left ilium of 2cm and high left shoulder of 1cm. There was a + 4 lb. difference on the right side using bilateral weight scales.

Cervical flexion was decreased by 5 degrees, right cervical lateral flexion decreased by 5 degrees and lumbar ranges of motion were severely decreased due to pregnancy. Derefield leg check was negative. There was left cervical syndrome present.

Motion palpation revealed the following misalignments in the spine: There was a flexion/extension restriction and left rotation restriction at C2 vertebra. There was a flexion/extension restriction and right rotation restriction at C5 vertebra. There was a flexion/extension restriction and left rotation restriction at T2 vertebra. There was a flexion/extension restriction and right rotation restriction at T8 vertebra. The sacral base had moved posterior. There was a right rotation of the sacral base present.

Paraspinal Surface Electromyography (sEMG) scan revealed a 60% increase in paraspinal muscular tone on the left side at C3 vertebral level, 51% increase on the left at C5 vertebral level, 38% increase on the left at T1 vertebral level, 46% increase on the right at T2 vertebral level, 91% increase on the right at T8 vertebral level, 130% increase on the right at T12 vertebral level, 320% increase on the right at L1 vertebral level, 76% increase on the right at L3 vertebral level, 53% increase on the left at L5 vertebral level and a 69% increase on the left at S1 vertebral level.

Segmental paraspinal thermography indicated severe temperature differences of 2.7 degrees Fahrenheit and 1.3 degrees Fahrenheit at C2 and C4 respectively. Moderate temperature difference of 1.2 degrees Fahrenheit was noted at C3 vertebral level. In the thoracic spine moderate temperature differences of 1.2 degrees Fahrenheit and 1.0 degrees Fahrenheit at T2 and T8 respectively were also observed.

Chiropractic Care

The patient was adjusted strictly via Webster Technique for two weeks. The treatment consisted of 4 sacral base adjustments using a drop mechanism table. The patient was in a prone lying position with a pregnancy pillow used for comfort. A specific high-velocity, low-amplitude force was applied to the right sacral base in order to correct the sacrum subluxation.

This was followed by releasing the trigger point in the round ligament on the opposite side while the patient was in a supine position. The trigger point release was achieved by palpating a tender nodule and applying a steady pressure until the ligamentous tissue relaxed and a tonal change was noted upon palpation.

The patient received detailed instructions to massage the round ligaments bilaterally on a daily basis before getting out of bed in the morning and as needed throughout the day. The patient followed these instructions until the birth.

After 4 adjustments over the 4 week course of care, the fetus was determined to have turned from the previous transverse position to a normal, vertex position. The patient remained under full spine chiropractic care for the remainder of her pregnancy.

The patient saw her OBGYN in the 36th week of her pregnancy to receive a diagnostic ultrasound to confirm the position of the fetus. The ultrasound indicated a normal, vertex position. The fetus remained in vertex position until delivery. The delivery was a home vaginal delivery in the presence of a doula. The baby was a healthy female.

Discussion

Review of Literature

A review of literature on Webster technique, chiropractic and breech presentation was conducted and yielded multiple peer reviewed studies on the subject. The general efficacy of Webster technique in restoring proper pelvic function which led to achieving a normal, vertex position has been reported to be between 82% and 92%. [9,10,12-14] More importantly, the individual case studies and a practice-based research program study of 81 abnormal presentations lend further support to Webster technique.[15] Several of the studies that specifically dealt with the application of Webster technique and resulted in change of fetal position from breech to vertex are described.

A case series of three women presenting with breech pregnancies was conducted by Rubin[8] and reported that each of the fetuses turned to vertex position within 4 visits. Similar results were reported by Kadin[9] who documented two separate cases of the fetus returning to proper position in the 37th week of pregnancy. Both Drobbin and Welsh[16] and Stone and Sliwka[12] were able to further demonstrate the efficacy of Webster technique by documenting two separate cases that turned to vertex position after 5 visits. The change in presentation was confirmed by both pre and post treatment ultrasound in each case.

Webster technique has also been reported to help in avoidance of cesarean section in a 25 year old female with breech presentation by restoring proper pelvic function and allowing the fetus to return to a vertex position, as reported by Dashtkian and Whittle-Davis.[13]

Alcantara[11] took this concept even further by demonstrating that a female with a breech presentation and two prior cesarean sections benefited from Webster technique and had an uncomplicated vaginal birth.

A multi-patient study was conducted by Kunau,[17] in which he demonstrated the effects of Webster technique on 5 different women. Each woman presented with breech presentation and was analyzed and adjusted via Webster protocol. Four of the women reported a successful vaginal birth whereas the fifth woman had not had her baby when the study was written.

Another study consisting of 14 women with various complicating findings during their pregnancies was also conducted by the same author and included a breech presentation that benefited from Webster technique. The woman was treated in her 37th week of pregnancy and her fetus turned from breech to vertex position after one adjustment and was delivered vaginally without any complications.[18]

Several presentations sponsored by the International Chiropractic Pediatric Association's (ICPA) Practice Based Research Network (PBRN)[19] showing potential in supporting the efficacy of Webster technique were also reviewed. Mullin and Alacntara[20] reported on 30 separate breech presentations that all returned to normal vertex position after an average of three visits and utilization of Webster technique. All 30 pregnancies were singleton and consisted of various breech presentations.

Alcantara[21] also presented a case series consisting of 6 women in 33rd to 39th weeks of pregnancy with medically diagnosed breech presentations. All 6 of the cases achieved a vertex position after receiving chiropractic care utilizing the Webster technique.

Pistolese[10] published a study on Webster technique in which 1,047 US and Canadian members of the ICPA were surveyed. There were 112 returned with results that met the study inclusion criteria. Positive results in the fetus returning to vertex position from a breech position were reported in 102 of the 112 surveys. This makes the success rate 92%, the highest reported by any multi patient study reviewed by the author.

Overall, the above studies demonstrate supportive data for efficacy of Webster technique in restoring proper pelvic function potentially leading to restoration of normal fetal position. The limitations of the studies include the fact that several are only single cases and no control group was present. Thomas[14] suggested that Webster technique be further studied to continually investigate its efficacy on conversion of breech presentations to the desired vertex position.

Proposed Mechanism

The human pelvis is designed with adequate space and shape for a normal vaginal birth. It consists of two innominate bones connected anteriorly at the pubic symphysis and the sacrum lying on the posterior side articulating with each innominate at the sacro-iliac joints. Furthermore, there are several ligaments connecting the bony pelvis with the uterus.

The sacrum is connected to the uterus by two uterosacral ligaments attaching to the anterior surface of the sacrum which help to suspend the uterus in the pelvic cavity while the two round ligaments connect the uterus to the pubic ramus

The remaining four ligaments, anterior, posterior, and two broad ligaments will not be discussed due to the fact that they were not directly affected in this case study. Normal alignment of the pelvis creates a favorable placement of the fetus also known as the vertex position.[9,12,16]

It is a normal phenomenon for the hormone relaxin to be increased during pregnancy in the effort to aid with the stretching of tendons and ligaments during childbirth. This

relaxation of ligamentous structures decreases the stability of the pelvis.[11] Pelvic laxity, however, predisposes the pelvis to becoming misaligned due to internal or external forces.[10,12,16]

With increased relaxin, the sacrum has a tendency to misalign at either the right or left sacro-iliac joint.[12] The rest of the pelvis reacts to the sacral misalignment by shifting either ilium in an anteriosuperior or posterioinferior position. This misalignment forces the pelvis to become non-symmetrical and distorts the pelvic bowl. The anterior sacral wall is connected to the uterus at the anterior S2-S3 level via the uterosacral ligament.[10] The misalignment of the sacrum via the uterosacral ligaments creates bi-lateral tension in the uterus. Once the ilia subluxate and the shape of the bony pelvis is altered, the round ligament is affected via the changes to the inguinal ligament and adjacent fascia. The round ligament then affects the antiversion of the uterus and creates more restraint. [10,12,16]

Taking into consideration that optimal fetal presentation is dependent on proper uterus positioning and looking at research published by Nordtveit et. al. we can deduct that in a case pelvic misalignment, there is a higher chance of a breech fetal presentation. In our case we can also take into consideration the advanced age of the mother as another increased risk for a breech presentation, also described by Nordtveit. [13,22]

Obstetric Approach to Breech Presentation

Of the 3-4% of pregnancies that result in a breech presentation in the third trimester, it was determined that 83.8% to 87% are delivered via cesarean section.[2,3] This makes cesarean section the most common form of delivery of breech babies by far and in 2004 accounted for 1.2 million births.[11] Even though that number may seem high, the reader must understand that breech presentations account for only 12% of all cesarean sections as published in American Family Physician. The most common cause of cesarean section births is previous cesarean delivery followed by dystocia and finally breech presentation.[8]

Although pretty common, cesarean sections have some serious implications associated with them. A study published in the British Medical Journal found that cesarean births lead to increased risk of severe maternal morbidity versus vaginal delivery (2:1) and five times the chance of needing antibiotics post-partum.[6] Considering the previously described maternal and neo-natal risks, studies shown that between 2003 and 2004 caesarian rates increased from 17 to 20.6%.[23]

Chiropractic Approach

An interesting fact about Webster's Technique is that the adjustment part can be viewed to incorporate all three of the chiropractic approaches described by Kent.[24] The misalignment of the sacrum in relation to the ilia and L5 spinal segment correspond to the segmental model often used by Gonstead and Diversified techniques. The alteration of the shape of the pelvic bowl as a functional unit can be closely assimilated with the postural approach. Finally, the relationship of the uterus with the bony pelvis via various ligaments and fascia can be viewed as a tonal approach when we consider the tone of the myofascial tissues affected by sacral subluxation.

The second part of Webster's technique is releasing any trigger points found in the round ligament of the uterus on the opposite side of sacral rotation. Trigger points, also known as myofibrositis, are deficits caused by possible postural abnormalities, overloading, fatigue or psychological stress. When present, trigger points prevent full lengthening of muscle or ligamentous tissue and may elicit pain upon palpation. It is believed that trigger points, especially in the round ligament of the uterus,. may contribute to uterine tension and therefore optimal fetal positioning. Trigger points palpate as tender nodules and are treated with light effleurage therapy. The patient should be checked for sacral subluxation and trigger points and adjusted as described every two days when present.[8,10]

Instrumentation

The instrumentation used was the Insight® 7000. Paraspinal surface electromyography was used to determine muscle tone in the paraspinal musculature. A paraspinal thermal instrument was also used to detect heat differences which have been found to correspond with abnormal sympathetic nervous system function. Both surface electromyography and thermography were used because they have been shown to be non-invasive, safe and have excellent intra-examiner and inter-examiner reliability.[12,25-27]

Conclusion

This case study of a 35 year old pregnant female with a breech fetus showed that the application of Webster's technique is effective in correcting sacral subluxation and restoring proper pelvic neurobiomechnaics. Correcting the sacro-pelvic misalignment may have had an effect on uterine tension which in turn allowed the fetus to assume the optimal, vertex position. Confirmation of the fetal positioning by an ultrasound allowed the patient to plan a vaginal birth. In this case, chiropractic care via the application of Webster's technique prevented the need for more invasive approaches such as external cephalic version or a cesarean section and reduced both maternal and neonatal risk.[12,17]

The limitation of this study was the fact that it was only one case. Although the reported success rate associated with Webster's technique is as high as 92%, there is still need for more research to be done regarding its safety and efficacy.[15,28]

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