

CASE STUDY

Resolution of Transverse Lie Presentation Confirmed by Ultrasound & Successful VBAC in a Pregnant Woman Undergoing Chiropractic Care for Vertebral Subluxation

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Abstract

Objective: To discuss the positive health outcomes following chiropractic of a pregnant patient with a transverse lie fetal presentation.

Clinical Features: A 28-year old female patient presented at 39-weeks pregnant with a transverse lie fetus. This was the patient's third pregnancy with the second ending in Cesarean section.

Intervention & Outcomes: Chiropractic adjustments for vertebral subluxations using Webster and Thompson technique were utilized. Surface EMG and thermography scans were used to monitor dyspnoea and dysautonomia secondary to vertebral subluxation. The patient experienced a natural, vaginal birth after cesarean (VBAC) with no complications. Pre and post ultrasounds confirmed the transition of the fetus from a transverse lie to a vertex position.

Conclusion: The woman in this study experienced a resolution of breech presentation confirmed by ultrasound and had a successful VBAC. More research on the role of chiropractic during pregnancy is recommended.

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

Introduction

It is commonly known that the rates of caesarean section are increasing within the United States.¹ With this medical procedure only emerging with modern medicine, natural birth was the only option for centuries, regardless of the conditions, health of the mother, or presentation of the fetus. However, in today's world, when the fetus is in a sub-optimal presentation at the time of birth, caesarean section is the default intervention and a natural vaginal birth is normally not an option. As with any medical procedure there is risk but with caesareans it is two-fold: risk to the mother, and risk to the fetus. Therefore, as alternative medicine emerges, preventative ways to decrease these rising caesarean section rates should be studied.

In 1985 the World Health Organization (WHO) concluded that the national average of caesarean section rates should not exceed 10-15%.¹ Since that time this percentage has been the known rate, with dispute and debate, as the global rates steadily rose since that time. In 2014 the World Health Organization held a meeting to determine the current caesarean rate in our world. They published the results in 2016, reporting that from 1990 to 2014 the average global caesarean rates increased 12.4%, with North America having the highest annual increase rate of 6.4%.¹ In 2014 the caesarean rate was 32.8% in the United States.¹

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A caesarean section could be a life-saving procedure in the circumstance of complications in labor or pregnancy. However, it is a major surgical procedure that poses risks to both the mother and the fetus with possible consequences in later pregnancies and long-term effects still being explored.² The WHO concluded “every effort should be made to provide caesarean sections to women in need, rather than striving to achieve a specific rate”.¹

The Webster Technique is a chiropractic analysis and adjusting technique to address vertebral subluxations of the lumbar spine and pelvis. It has been associated with positive outcomes in regards to breech presentations. Mal-presentations of the fetus include footling breech, frank breech, complete breech, and transverse lie; while the optimal presentation is called vertex. However, over fifty percent of fetuses fail to turn to the optimal vertex presentation by the expected timeline of 36 weeks.³ Furthermore, in 2003, it was reported by the National Health Statistics that 87.2% of all breech presentations end in cesarean sections.³

Larry Webster, DC developed this chiropractic technique more than 30 years ago, after noting the relationship between the foundation of the spine, the surrounding ligaments, and mal-positioned fetuses. He noted a ninety percent success rate during his career using this technique on over 1000 pregnant women with mal-positioned fetuses.³ In 2002, Pistolesse published a review that concluded a 82% success rate with the use of the Webster Technique on pregnant women with breech presentations to relieve the musculoskeletal strain on the intrauterine ligaments.⁴

In 2012, Alcantara and Ohm published a paper clarifying the description of the Webster Technique.⁵ Due to the empirical observations that pregnant women under chiropractic care with breech fetal pregnancies were reporting correction of fetal position to vertex following the use of the Webster Technique, the technique was inappropriately described in its early days as a “breech turning technique” by both patients and some chiropractors. The Webster Technique is a specific chiropractic sacral analysis and diversified adjustment. The goal of the adjustment is to reduce the effects of sacral subluxation/ SI joint dysfunction. In doing so, neuro-biomechanical function in the pelvis is facilitated.⁵

This case study will describe the chiropractic care of a pregnant woman with a transverse lie presentation, who was adjusted utilizing the Webster Technique.

Case Report

History

The patient was a 28-year-old female who was 39-weeks pregnant with her third child at the time she presented to the office. At the time of presentation, she had plans to have a vaginal birth after cesarean (VBAC) as her second pregnancy resulted in a cesarean section. However the fetus was in the transverse lie presentation at the time of her first visit. Her first child was delivered vaginally.

It should be noted that a large cohort study has shown that women who undergo VBAC rather than electing for cesareans

have significantly less postpartum fevers and blood transfusions.⁶ The study also confirmed that women, who have had a vaginal birth prior to a VBAC, have more success than those who have not had prior vaginal births.⁶ This evidence supports the likely success for the patient in having a vaginal birth.

Examination

At the time of her examination she did not have any low back pain. She had experienced sciatic nerve symptomology in her left leg on and off beginning one-month prior. This pain was reported as dull and aggravated by sitting, with no relieving activities, and was said to come and go. She reported low stress levels, moderate energy levels, strong concentration levels, and restful sleep hours. She described her disposition overall as content. It was noted that she was taking NSAIDs for pain relief of her sciatica complaint whenever she was symptomatic.

The patient had no remarkable appearance abnormalities and had normal ambulation upon inspection. Her postural analysis revealed a fair/poor presentation, with an anterior cervical shift, left high shoulder, and right high ilium. Upon palpation of the spine, spasm was noted bilaterally at the fifth lumbar segment and the sacrum. There were no abnormal ranges of motion, muscle strength, orthopedic tests, or nerve root findings. Diagnostic imaging was not performed due to the pregnancy.

Thermography and static surface EMG scans were performed. The thermal scan showed discrepancies of 0.8, 0.9, and 0.8 degrees Fahrenheit to the left at C6, C7, and T1 respectively; 0.7 degrees Fahrenheit to the right at T10. The surface EMG showed severe asymmetry of 76% at C1 on the right, 85% at C3 on the right, and mild asymmetry of 30% at T6 on the left, and 24% at L5 on the left. Both Thermography and sEMG are valid and reliable tools to assess the neurological component of vertebral subluxation.^{7,8} Thermography measures the temperature of skin along the paraspinal region.

Thermography scans are looking at symmetry left and right and patterns in multiple scans. Vertebral subluxations are associated with asymmetrical scans and/or a fixed scan pattern, indicating dysautonomia.^{7,8} Surface EMG records the electrical activity of muscles groups either at rest (static), or in motion (dynamic), and compares the activity left to right.^{8,9} The static sEMG tells the examiner the efficiency of the neuromuscular communication within the paraspinal muscles groups at rest and is a measure of dysponesis related to vertebral subluxation.^{8,9}

The patient was diagnosed with vertebral subluxation of the cervical, thoracic, lumbar, and sacral spine. Her treatment plan was 3 times a week until delivery of the baby. Her treatment goals included improving functional mobility, correcting posture imbalance, reducing pain and discomfort, improving the ability to perform her activities of daily living (ADL), reducing her reliance on NSAIDs, and reducing the occurrence of future exacerbations.

Intervention & Outcome

The patient received a total of four chiropractic adjustments over a two-week period, using primarily Webster Technique and myofascial release therapy for support. The diversified technique is a manual segmental chiropractic adjustment to the spine, of high velocity and low amplitude.¹⁰ As the fetus grows it increases the load on the mother's lumbar and sacral spine which often results in increased pressure on the spine and low back pain.¹¹ Diversified technique has been found an effective technique in reducing musculoskeletal complaints such as low back pain in pregnant women.¹¹ Postural analysis, static palpation, motion palpation, and leg length were used for analysis on each visit. Static palpation for pain or tenderness, motion palpation for active range of motion, and prone and supine functional leg length inequality, have all been determined as reliable assessments of subluxation.¹² The Webster Technique analysis was used to determine which side of the sacrum to adjust.

Myofascial release therapy is a manual soft tissue technique that targets muscular trigger points and their associated pain patterns. The trigger points are located by the examiner through soft tissue palpation of the muscles, fascia, ligaments, and tendons.¹³ This therapy has been proven effective in not only reducing the patient's pain, but also in increasing blood flow and cellular metabolism to the target muscle.^{13,14}

On all four visits the patient received Webster's Technique adjustments, addressing her sacrum, sacrotuberous ligament, and round ligaments.^{3,4} She also had myofascial release to the following muscles: psoas, piriformis and tensor fascia lata throughout the course of her four visits of care.

At the end of the two-week period, an ultrasound was performed and the baby was in the head down/vertex position. The patient was successful in having a vaginal birth after cesarean, delivering a healthy baby. Labor was induced with Pitocin and the patient received an Epidural at 7cm. The baby weighed 7lbs, 4oz.

Discussion

The nervous system controls every other organ system in our bodies. With that being said, when there is interference(s) within the nervous system, it can lead to disturbances within other organ systems.

This is what lead Larry Webster to develop the Webster Technique to remove the interference caused by faulty biomechanics of the pelvis in pregnant women thus releasing the intra-uterine constraints that can lead to a malpositioned fetus.^{3,4} This interference is the result of a vertebral subluxation in the sacrum of the pregnant mother.⁴ A vertebral subluxation is when two or more vertebra lose their proper alignment and movement and interfere with the function of the nervous system.

Review of Allopathic & CAM Management

In traditional medicine when a fetus presents breech, the treatment is controversial. The fetus may undergo external cephalic version (ECV) performed by an OBGYN, or wait to

have a cesarean section surgery performed. External cephalic version is when the OBGYN attempts to move the malpositioned fetus to an optimal vertex head-down position.¹⁵ External cephalic version uses pressure on the mother's abdomen in attempt to turn the fetus. A review was done on its efficacy and in the United States the success rate ranged widely from 44-77%.¹⁶

Additionally, despite the successful cases of external cephalic version, the mother then has increased chances for a vaginal birth with instruments, or a caesarean section due to dystocia or fetal distress.¹⁷ Therefore, even in a successful external cephalic version procedure, the final birth process was often no more natural than not attempting to turn the malpositioned fetus. Furthermore, the technique is not always non-invasive, as the use of tocolytic drugs is common during the procedure. Tocolytic drugs have been found to increase the chances of abruptio placentae, fetal bradycardia, prenatal cranial hemorrhage, and umbilical cord prolapse.⁴ Thus chiropractic care can offer a less invasive, and more natural approach to cases where there is in-utero constraint.

The traditional medical conclusion to a breech fetus is cesarean section. If a vaginal birth was planned, despite a breech fetus one study found the birth resulted in cesarean sections 45% of the time.¹⁸ The reasoning included failure to process, fetal heart rate abnormality, umbilical cord prolapse, patient request, footling breech presentation, or medical complications.¹⁸

Despite the rising rate of cesarean sections and its common practice in the event of a breech fetus, there are notable risks with the operation that must be addressed. One Norwegian study found that 21% of mothers experienced complications with the operation, and the complication rate was higher in women who had unplanned operations.¹⁹ The study also found a correlation between the complications and the cervical dilation measurement. It found that those women with measurements of 9-10cm of cervical dilation at time of operation had the most complications.¹⁹ This further highlights not only the importance of planning for such an operation, but perhaps in taking more preventative measures to ensure all is being done to avoid an operation. Secondly, there are also risks to the fetus when c-sections are done. One study found a 30% increase in low APGAR scores of infants delivered by cesarean.²⁰

Review of Literature

Since development of the Webster Technique many chiropractors have had success with its use on pregnant females. From pain relief to optimal fetus positioning, the research shows positive results. Chiropractic care for pregnant patients can be managed through various techniques, from the segmental, postural, or tonal model of subluxations, as presented by Kent.¹⁰ However, the Webster Technique is by far the most researched when it comes to pregnancy. Individual patient case studies and larger clinical studies have been published that highlight the positive outcomes for breech presenting fetuses and their mothers.

A similar case has been published, in which a 35-year old female presented at 30-weeks gestation with a breech fetus,

and underwent four chiropractic adjustments, which successfully removed the pelvic and in-uterine constraints, allowing the fetus room to move from breech to vertex.²¹ This specific case is also similar to our patient's case in regards to number of visits showing that only a few adjustments can be effective.

Another published study demonstrated the success of three different breech cases, all managed with the Activator technique.²² These cases differ from our patient's in terms of the specific chiropractic technique, but the success of all five cases is an example of different techniques resulting in the same outcome.

Drobbin and LaRosa published a review of literature on the topic that included eight studies.²³ The review concluded that in all eight individual cases presented the fetus was able to transition successfully from a malposition to the optimal position after a range of two to nine chiropractic adjustments.²³

Conclusion

This case study highlights the positive health outcomes experienced by a pregnant woman experiencing a breech presentation. The fetus turned to a normal vertex position as documented by ultrasound and the mother was able to go on and deliver vaginally. Further research is recommended to explore the role of chiropractic during pregnancy.

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Appendix

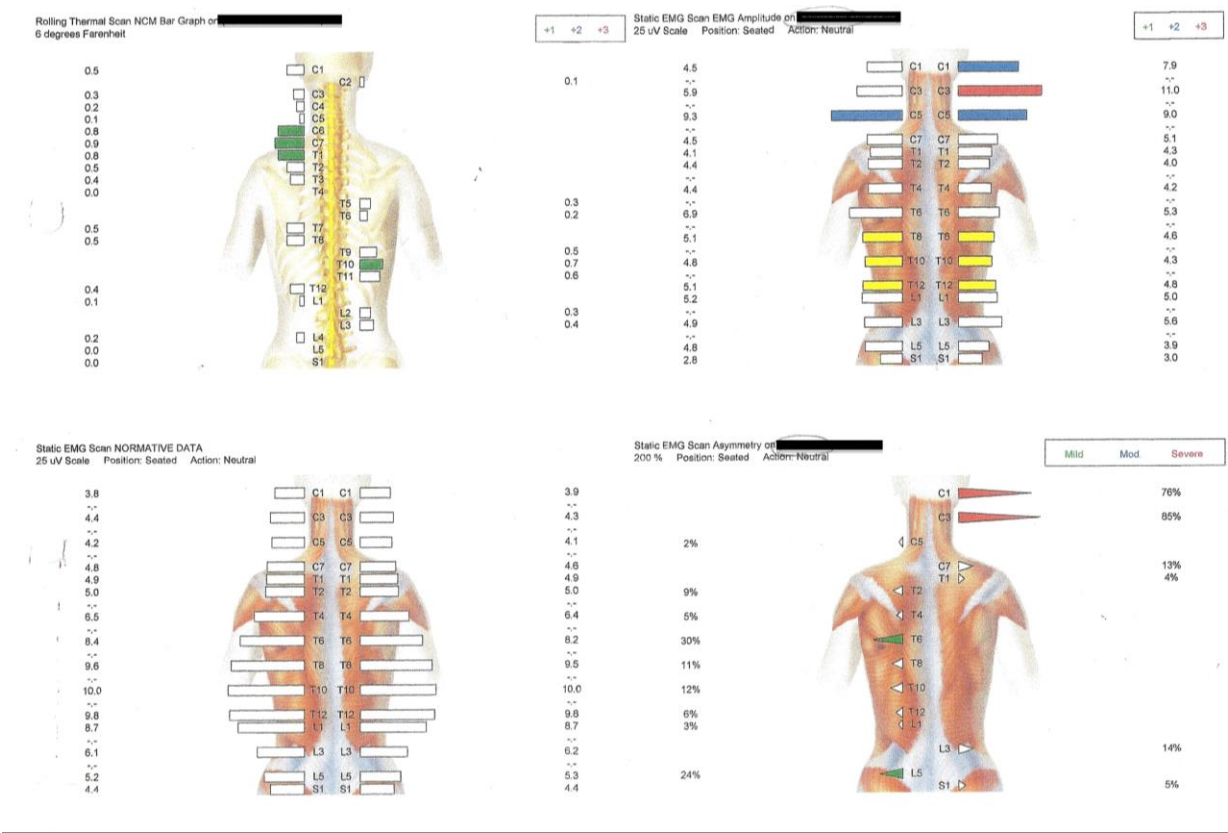


Figure 1. Thermography and sEMG Scans