

TECHNIQUE

Resolution of Breech Presentation Confirmed by Ultrasound Following Webster Technique: A Case Report & Review of Literature

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Abstract

Objective: The purpose of this case study is to discuss the positive health outcomes following the application of the chiropractic Webster Technique on a pregnant woman with a breech baby.

Clinical Features: A 30-year-old patient who was 39 weeks' gravid presents to the chiropractic office for breech birth presentation that was confirmed by ultrasound.

Intervention and Outcomes: The Webster Technique was administered to the patient. She received a sacral adjustment and round ligament trigger point release each time. The mother noted significant movement from the baby after the second adjustment. The fetal presentation was confirmed to have changed from frank breech to vertex position via an ultrasound done by her OB/GYN.

Conclusion: The woman reported on in this study experienced a resolution of breech positioning following the administration of chiropractic and the Webster Technique.

Keywords: *Breech, frank breech, Webster technique, subluxation, adjustment, vertebral subluxation, chiropractic, dystocia*

Introduction

An article in the American Journal of Obstetrics and Gynecology states that 3-4% of all pregnancies will end in a breech presentation,¹ although as many as 30% of babies may present as breech prior to 28 weeks' gestation.² The resulting condition from a breech presentation is known as fetal dystocia.

This condition is described in the Merck Manual as abnormal fetal size and positioning resulting in a difficult delivery.³ A difficult delivery can be defined as lack of progression of cervical dilatation or of fetal descent.⁴ Dystocia can occur

when the fetus is larger than the female's pelvic opening or if the fetus is in one of several abnormal positions collectively known as breech. Normal fetus presentation is vertex with an anterior occiput. Abnormal fetal positions include: occiput posterior, transverse lie, brow, face presentation, and breech.

When the baby is occiput posterior they are head down but with the occiput posterior instead of in the anterior position. Transverse lie, the baby is sitting in the womb horizontally. Brow presentation is where the baby's head is extended back so that the forehead will present through the birth canal first.

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Face presentation is like brow, where the baby's head is extended back, but it is even more extreme in this position to the point where the baby's face is set to come through the birthing canal first.⁵

Lastly there is the breech presentation. There are three different types of breech positions. All of them consist of the baby's bottom being down, near the vaginal canal, and the head up near the mother's ribs. The differing factor in each position is where the baby's legs are. The first, and most common, is frank breech, making up about 60% of breech birth presentations.⁶

In this position the baby's legs are extending straight up with the feet by the baby's head. Another type is complete breech. Here the legs are bent at the knees so the baby is in a true fetal position. Lastly there is footling breech. This is a combination of frank and complete breech. One of the baby's legs is extended with the foot near the head and the other leg is bent at the knee. This could cause the baby to come out with one foot first with the bottom following making it a very difficult labor.⁷⁻⁸

There is no true cause to why a baby may end up in a breech position, but there are some factors that make breech positions more common. Some of these factors are; if the mother is pregnant with more than one child it is not uncommon for one the fetuses to be breech, if there is too much or too little amniotic fluid in the uterus, if the mother has an abnormal shaped uterus, if it is the mother's first child, if she has pelvic tumors, if the mother is older or if the woman has placenta previa.^{7,9}

Placenta previa is a condition when the placenta is sitting low in the uterus and is covering the cervix either completely or partially. The placenta should be attached to the uterine wall but in this case it has detached.¹⁰ Other factors that some doctors think may prevent a baby from moving into the vertex position during the last trimester are "higher maternal weight gain, higher body mass index at term, smoking, increased hemoglobin values, as well as shorter umbilical cords."¹¹

Case Report

Patient History

The patient was a 30-year-old who was in her 39th week of pregnancy with her fifth child. She was seeking chiropractic care due to discomforts of pregnancy and due to her OB/GYN confirming, via ultrasound, that her baby was breech. She had never been to a chiropractor before but was referred to this pediatric chiropractic office because of the positive results another patient had seen from getting adjusted while pregnant. She had also heard of the positive results the Webster Technique could possibly offer.

She had been informed by her doctor that she could receive external cephalic version to try to turn the baby. She went in for a consultation, but when she learned of the risks, she decided she no longer wanted to go through with it. She decided to check out alternative options. This is where the patient came across chiropractic and was hoping chiropractic care would be able to help.

Case management

The patient began by filling out the proper paperwork. After this was completed the patient history was taken and a physical exam and consultation were performed. The patient then received an adjustment. The patient was asked to lay face down on the table so her feet could be checked for leg length. Her feet were approximated to her bottom and it was noted that she had leg lag on the left.

A high velocity low force adjustment was administered to the left side of the sacrum while the patient was laying in side posture position with the left side up. The line of correction was straight P-A, (posterior to anterior). The patient's legs were rechecked, and she was asked to turn over and lay face up on the adjusting table. The round ligament on the right side was then found and contacted. A pressure was applied meeting the resistance of the ligament until the trigger point gave out. This concluded the care for the day.

The patient came in a total of four times and received the exact same adjustment each visit. The patient reported that following her second adjustment she noticed that there was a lot of movement in her belly from the baby. Shortly after this she scheduled an appointment with her OB/GYN. Upon her visit to her OB/GYN, an ultrasound was performed and it was confirmed that the baby had moved itself into the vertex position. The patient went into labor within 48 hours after her last adjustment and gave birth to a baby girl through a normal vaginal birth. There were no complications.

Discussion

The uterus lies in the pelvis of a woman anterior to the rectum and posterior superior to the bladder. It has three different parts to it. There is the fundus, which is the top of the uterus, the body, where a fertilized egg often attaches to the wall of the uterus and the cervix, this connects the uterus to the vagina. The uterus is also made up of three different layers. The outer most layer is the perimetrium. It is a continuation of the abdominal perineum. The middle layer is the myometrium. This layer is made up of smooth muscle and goes through the most changes during a woman's pregnancy.

The inner most layer is the endometrium. The endometrium is a mucous membrane that lines the inner uterus. There are also numerous ligaments connected to the uterus to help keep it in place. The biggest ligament connected to the uterus is the broad ligament. It originates from the sides of the uterus and inserts onto the iliac bone to help keep the uterus in its proper position. Ovarian ligaments help attach the ovaries to the uterus. Two other important ligaments are the round ligament and uterosacral ligament which will be explained in more detail later.

The uterine artery and vein, on either side of the uterus, is the main vascular supply. Lastly there is the nerve supply. The nerves to the uterus primarily come from the inferior hypogastric plexus which is derived from S2, S3, and S4 spinal nerves.¹² A division of the inferior hypogastric plexus is the uterovaginal plexus, which can further be divided into the uterine plexus and the vaginal plexus. These are the sympathetic nerves of the uterus. The parasympathetic nerves

are the pelvic splanchnic nerves which are also derived from S2, S3, and S4.¹³

During pregnancy, many different hormones are released into the woman's body in a higher amount than normal. One of these hormones is called relaxin and it is responsible for the laxity of ligaments in the pelvis. This gives the sacrum the ability to move much more easily and possibly become misaligned. One hypothesis is that because the sacrum attaches and influences much of the uterus, if the sacrum is malpositioned it can cause three different things to possibly happen: tightening and tension of the uterine ligaments, nerve interference, or misalignment of the pelvis leading to dystocia. Any of these three causes could be keeping the baby from moving into the proper birthing presentation.⁴

The Webster Technique

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.⁴ The technique was developed in 1978 by Dr. Larry Webster. There are three steps in the performance of this technique: a specific sacral analysis, a diversified adjustment, and a soft tissue release. Dr. Webster stated that the goal of the technique was to develop a care plan "for laboring women to help with ease of birth."¹⁴ It is proposed that the adjustment helps to reduce the effects of subluxation on the sacroiliac joint, increase the neuro-biomechanical function of that joint, and release tension that the round ligament puts on the uterus.¹⁴

For the first step, the patient begins by lying face down (prone) on the table. The doctor then takes the patient's legs and approximates the feet towards the buttock by flexing the patient's knees. Leg resistance into flexion is noted where one leg stops further away from the buttock compared to the other. The side of increased leg resistance is the Webster side and the side of the sacral adjustment.

The doctor addresses this by moving to the second step and placing the patient in a side posture position with the patient lying on their side with the posterior sacrum side up or face down utilizing the drop table. The doctor contacts the sacrum on the affected side with their pisiform. They then direct a high velocity low force adjustment to that side of the sacrum in a posterior to anterior (P-A) line of correction. The patient is then placed into the prone position again and the doctor rechecks for leg resistance.⁴

The third step to Webster's Technique is for the patient to lie face up (supine) on the table. The doctor will be contacting the round ligament on the opposite side of leg resistance, or the opposite side of posterior sacrum. The round ligament is found by finding a point between the umbilicus and the anterior superior iliac spine (ASIS). To find this spot, the doctor moves forty-five degrees inferior and lateral from the umbilicus and forty-five degrees inferior and medial from the ASIS.

Where these spots intersect is the muscle belly of the round ligament.⁴ Here the doctor will feel for any sign of a trigger point, or part of the muscle fiber that is contracted and will be

harder to the touch. Deep palpation of the trigger point will produce pain at the spot being touched or the pain could be referred to another area in the body.¹⁵ The doctor then places their thumbs on the trigger point and presses to meet the resistance of pressure produced by the ligament. The direction of the doctor's force is toward the patient's opposite shoulder. This would be in a superior and medial direction. The doctor holds this position until they feel the ligament release and the round ligament is in a relaxed state.⁴

Adjusting the sacrum directly effects tension on the uterus caused by a taut uterosacral ligament. The uterosacral ligament originates from the inferior central portion of the uterus just above the cervix and extends off of both sides. The ligament then attaches to the anterior sacrum bilaterally.¹² If the sacrum is fixated in a rotation malposition, tension is produced in the uterosacral ligament causing it to become taut. The result of this tension is that the uterus becomes constrained, and the baby inside will have less room to move. By adjusting the sacrum and returning it to its neutral position, the uterosacral ligaments become supple, and the uterine walls return to a relaxed state.⁴

The round ligament extends from the lateral aspect of the uterus and inserts on the superior pubic ramus. It runs between peritoneum that originates at the uterus and continues to the labia majora. The round ligament is made up of muscle fibers and is affected similar to the uterosacral ligament in regards to sacral subluxation. These muscle fibers are able to form trigger points when the ligament is being pulled taught to the greatest of its extent. Because trigger points are able to be released with manual pressure, the muscle fiber is able to find a more relaxed state when the Webster Technique is performed.

Most often, the chiropractor will perform the technique on the opposite side of sacral involvement.⁴ By contacting the round ligament and putting pressure on the trigger point, the muscle is getting reduced blood flow, there for reduced oxygen to that exact point. By depriving the muscle of oxygen to that spot, the trigger point is no longer able to hold the contraction, causing the trigger point to relax. The doctor will be able to feel the trigger point give out. The muscle will no longer be as taut, and the patient should experience decreased point tenderness. Research has reported on the positive health outcomes related to Webster Technique.¹⁶

The Medical Approach

External cephalic version (ECV) is medical terminology and is the procedure medical doctors use to turn babies in the uterus that are either complete or frank breech when the mother is at term (≥ 37 weeks).¹⁷ It is said to have a 60% success rate.¹⁸ Doctors are advised to give women the choice of having external cephalic version done, as opposed to immediately scheduling a caesarian section. But about 87% of women are not informed of their options from their doctors or midwives. They more frequently learn about their options from reading books and magazines.¹⁹

There are some factors that indicate whether this is safe to perform ECV on a patient. The mother must not be carrying more than one fetus. The fetus should be healthy with no

indications of birth defects. Having enough amniotic fluid is important so that the baby is less likely to be injured during the procedure. It is believed that the closer to 37 weeks' gestation the procedure is done, the safer it should be.²⁰

ECV is generally done with two medical doctors or obstetricians performing the maneuver but can be done with just one. Initially an ultrasound is done to confirm the baby's breech position. The patient is then administered some form of a tocolytic to keep the uterus from contracting during the procedure and to help the mother relax. One doctor will find the fetus's bottom and try to lift it to disengage the baby from the pelvic area. The second doctor then finds the head of the baby and begins scooping and pulling the baby down the side of the abdomen.

While one doctor is pulling the baby's head down one side of the abdomen, the other is pushing the baby's bottom up the other side of the abdomen. They continue doing this until they have successfully turned the baby and it is in a vertex position. Another ultrasound is then performed to confirm that the baby is head down.²¹ Multiple attempts may need to be performed for the baby to stay in the vertex position after being turned from the breech position.

"Although the success rate of ECV is fairly high, potential complications include the risk of fetal distress, longer labor duration and dystocia during labor."²²

According to a study done in the year 2000, it was concluded that delivering a breech baby via vaginal delivery was more dangerous than having a c-section. The study consisted of 2,088 women, ≥ 37 weeks' gestation, carrying a singleton fetus that was breech. These women were randomly selected for whether they were going to deliver by caesarian section or a normal vaginal birth. Thirteen babies died that were born vaginally and from the c-section group only 3 died. It was noted that both methods of delivery had similar maternal morbidity rates.

There is some controversy over the results because it seems that five of the deaths in the vaginally delivery group may have had nothing to do with the method of delivery. Discounting these 5 deaths would make the morbidity number smaller for the vaginal delivery group, but caesarian section would still prove to be the safer option.¹⁶ In years following this study the United States has seen a rise in number of c-sections happening on woman and it is now the most common surgery performed on women.

In 2004, 29.1% of all births were done via caesarian section.²³ In fact by 2005 the rate had jumped to 30%. The rate at which caesarian sections are rising is concerning. In the 1970's the rate was at 14%.²⁴ And in 1991 the United States Department of Health and Human Services made it America's goal to only have 15% of women getting c-sections by 2000.²⁵ This goal is obviously not being met.

If the mother of a breech baby did so choose to have a c-section, there are some risks that come with that choice. These risks include: "increased overall neonate risk, increased postpartum risks of cardiac arrest, wound hematoma, hysterectomy, major puerperal infection, anesthetic

complications, venous thromboembolism and hemorrhage requiring hysterectomy, longer hospital stays when compared to women having vaginal births, increased risk of serious respiratory morbidity and increased risk of severe maternal morbidity."²⁶ The increased risk of maternal morbidity during a c-section is significantly higher than vaginal delivery when compared at 59.3 per 100,000 to 9.7 per 100,000 respectively.²⁷ More women over time are starting to look for other alternatives when their baby is not in the proper vertex position to avoid c-section. "Such methods as Chinese Medicine, homeopathic remedies, hypnotherapy, chiropractic, music, and yoga are on the rise due to women trying to regain control of the management of their pregnancy and body".²⁸

Complementary and alternative medicines (CAM) are gaining popularity over the recent years. According to a 2002 survey approximately 72 million adults in the United States use CAM.²⁹ In fact it was as high as 62% when therapies such as megavitamins and prayer healing were included.³⁰ The prevalence rate of pregnant women utilizing an alternative therapy ranges from 1% to 87%.³¹⁻³² "Specific problems addressed by CAM therapy include pregnancy-related musculoskeletal complaints, nausea and vomiting, labor stimulation and induction, cervical ripening, perineal discomfort, lactation disorders, postpartum depression, preterm labor, postpartum hemorrhage, labor analgesia, and malpresentation."³¹

"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."³³ Pregnant women who seek out chiropractic care generally come in to help with their low back pain or for wellness care for potential better and easier birthing outcomes.³⁴

Caesarian section (c-section) is a surgical procedure that is done to deliver the baby. This can be done for multiple different reasons. It most often is done as an emergency procedure if the vaginal delivery is not progressing as expected. If the baby's fetal heart rate becomes too high or goes into distress do to not getting enough oxygen during labor, a c-section is often performed.

It may also be necessary if there is displacement of the placenta, the woman has had a c-section previously, she is having multiple children, or the umbilical cord is wrapped around the baby's neck. C-sections can also be planned if the baby is breech and no other alternatives are taken to try to turn the baby. Now you can even schedule a c-section just for the convenience of knowing the date of delivery.³⁵⁻³⁶

Caesarian section is a very invasive procedure. The woman is often given a local anesthetic so that she can see and hear the baby after it has been delivered. The area must be thoroughly cleaned so that the woman does not contract an infection and a tarp, or some form of wall is placed between the woman's face and abdomen so she cannot see what is going on. There are two different incisions that need to be made, an abdominal incision and a uterine incision.

The abdominal incision is made first. The most common type is a horizontal incision along the "bikini" line or near the pubic hair. The other option is to cut a vertical line from the

umbilicus to just above the pubic bone. This is less frequently used and mostly done during emergencies. After the incision is done the doctor moves away any abdominal muscles blocking them from getting to the uterus.³⁷⁻³⁸

The uterine incision could be made one of three ways. The ideal cut would be a horizontal cut directly underneath where the horizontal abdominal incision was made. But if the baby is in an odd position, such as breech, it is more likely that the doctor will make a small low vertical cut. That is the second type of uterine incision. The third is called a common incision which is a vertical incision directly under the umbilicus. It is usually only done during emergencies, like the vertical line that is cut with the abdominal incision.³⁹

Delivering a breech baby vaginally is a concern many doctors have for two primary reasons. The first is that the head is the biggest part of the baby's body. If the mother delivers the bottom half of the baby and the head ends up being too big to fit through her pelvis, the head will become stuck, and this could be a life-threatening situation for the baby and potentially the mother. The second problem that could come to light is the umbilical cord could be damaged or squished. If this happened the baby's oxygen supply would be cut off and with the head still inside of the uterus, life threatening conditions could present quickly.⁴⁰

Conclusion

This case report presented a 30-year-old female that was 39 weeks pregnant and showed the positive influence Webster Technique had. In this case the baby's position was confirmed to be breech via ultrasound before Webster Technique was administered and ultrasound then confirmed the baby to have moved into the vertex position after the technique was applied. The changes took place in a short amount of time once the patient started under chiropractic care and was otherwise not doing anything differently in her daily life. More cases like this are recommended to be published to record the impact Webster Technique can have during any point of a woman's pregnancy.

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