CASE STUDY

Resolution of Secondary Amenorrhea of 20 Years in a Woman Undergoing Subluxation-Based Chiropractic Care

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Abstract

Objective: To describe a patient with secondary amenorrhea, low- and mid-back pain, and headaches under chiropractic care.

Clinical Features: A 39-year-old female presented for chiropractic care with low- and mid-back pain, tension- and sinus-type headaches, and a 20-year history of secondary amenorrhea. The patient suffered from secondary amenorrhea with painful menses at 3-4 months per year since she was 18 years old. Low-dose estrogen was prescribed at 37 and 39 years of age to induce her menses. The patient’s last menses was 3 months prior to initiating chiropractic care.

Intervention: The patient attended 25 visits over an 8-month period utilizing manual muscle testing and Diversified chiropractic adjustments (i.e., high-velocity, low-amplitude) to address sites of vertebral subluxations.

Outcome: Following the second visit, the patient reported experiencing her first menstrual cycle in three months. After 25 visits, the patient reported seven monthly menstrual cycles over 8 months of care, decreased musculoskeletal pain, and improved general health.

Conclusion: This case report provides supporting evidence that subluxation-based chiropractic care may benefit patients suffering from secondary amenorrhea. Future studies to examine the effects of chiropractic care on the factors and mechanisms of secondary amenorrhea should be initiated.

Keywords: chiropractic, secondary amenorrhea, subluxation, manual muscle testing, Diversified, back pain, headaches

Introduction

Amenorrhea can be categorized into primary and secondary amenorrhea. Primary amenorrhea is defined as failure of menarche by age 16 years while exhibiting secondary sexual characteristics. 1 Secondary amenorrhea is defined as cessation of menses for a minimum of three months or more in women who have experienced previous menses. 2-4 Secondary amenorrhea is more common than primary amenorrhea 5,6 with a prevalence of approximately 3.3% in women of child-bearing age. 7

Some common differential diagnoses of secondary amenorrhea are pregnancy (the most common cause), 8 thyroid disease, and hyperprolactinemia. 9 Once these conditions are ruled out, amenorrhea is thought to be caused by anatomical,
genetic and neuroendocrine abnormalities. Conditions that can cause secondary amenorrhea are exercise-related female athlete triad (eating disorder, amenorrhea, and low bone mineral density), eating disorders, injectable progestogen contraceptive, and polycystic ovary syndrome. Long term effects of secondary amenorrhea may include bone loss, psychological conditions including anxiety, altered self-image, and loss of self-esteem along with health issues related to low estrogen including low libido, hot flashes, and lack of energy. Psychological issues are especially evident in women who want to conceive but cannot due to amenorrhea.

Interventions for secondary amenorrhea are based on the diagnosis of the root cause including gonadotropin therapy in women with pituitary-caused amenorrhea, estrogen therapy for women who are hypoestrogenic, and nutritional intervention for patients with eating disorders. In the realm of chiropractic care, evidence of resolution of primary and secondary amenorrhea are limited to a few case reports/series and a clinical trial. To address this deficit and in the interest of evidence-based practice, we report on the successful chiropractic care of a woman with secondary amenorrhea.

**Case Report**

A 39-year-old Asian-American female presented to a chiropractic college health center with complaints of severe mid- and low back pain, referring into the left leg as well as headaches. Using written and verbal self-report, she rated her pain complaint as 9/10 for her low back pain, 6-7/10 for her mid-back pain, and 6-7/10 for her headaches. She reported that her pain complaints were present “every waking hour.”

She reported a history of secondary amenorrhea, experiencing heavy flow and painful cramps every 3-4 months since the age of 18 years. She was prescribed low-dose estrogen at age 37 and 39 to induce menses. Her attempts to conceive in the last four years were unsuccessful which caused her a great deal of anxiety. Review of systems indicated a medical history of anxiety attacks, asthma, benign breast fibroid, leg edema, weight gain, tension- and sinus-type headaches, and seasonal allergies.

In addition to taking her medical history, a comprehensive physical examination was performed, including range of motion (ROM) evaluation, vital signs, neurological examination and chiropractic examination utilizing manual kinesiological muscle testing, static and dynamic digital palpation and spinal orthopedic testing. At the physical examination, the patient was 5 feet 1 inch in height and weighed 230 lbs. Her vital signs were within normal limits.

Examination findings revealed a short right leg by ¼” in the prone position and a positive right Derefield Test. The short leg on the right side indicated asymmetrical muscle contraction of paraspinal musculature. Neurological tests including deep tendon reflexes and dermatomal sensation were within normal limits. Further orthopedic testing revealed a positive Fabere-Patrick test on the left side and a positive left Belt Test indicative of sacroiliac dysfunction. The patient also demonstrated positive testing on the right side during the Gillet’s Standing Test indicative of fixation of the right upper quadrant of the sacroiliac joint with active motion.

Cervical spine ROM examination revealed decreased ROM on cervical flexion, extension and on rotation, bilaterally. Lumbar spine ROM examination revealed restrictions on flexion, extension, and left lateral flexion, all with localized pain reported at the left sacroiliac joint. Postural analysis revealed elevation of the left ear, left shoulder, and right hip when compared with the contralateral sides.

On lateral view, the patient demonstrated an anterior head carriage by approximately 1 ½” from the vertical axis. On anterior-posterior view, the patient’s right shoulder appeared internally rotated, indicating asymmetrical muscular tone of the spine. Digital palpation findings revealed taut and tender paraspinous muscle fibers on the right side throughout the cervical spine from C2-C7 vertebral levels. The right paraspinous muscles from the third thoracic vertebra to the lumbosacral spine and extending to the sacroiliac joint were hypertonic. On digital motion palpation, the left sacroiliac joint was fixated when compared to the right.

Based on the history and physical examination, radiographic examination was performed of the lumbopelvic spine. Spinographic analysis revealed malposition of the left innominate according to the Gonstead protocol of spinography.

Evidence of osteoarthritis including loss of disc space, osteophytic formation and facet arthrosis were present in all lumbar segments. The patient was informed of an initial clinical impression of vertebral subluxation complex of the cervical, thoracic, lumbar spine and pelvis, facet/sacroiliac referral, and lumbosacral osteoarthritis. The patient consented to a trial of chiropractic care, focusing on the location and correction of vertebral subluxation.

**Intervention**

The patient attended a total of 25 chiropractic visits in a period of 8 months at an initial treatment frequency of twice a week for the first 6 weeks and once a week for the next 12 weeks. On the patient’s first visit, the patient received chiropractic adjustments utilizing Diversified Technique characterized as high-velocity, low amplitude (HVLA) thrusts. Subluxation listings were established using a combination of Gonstead spinography, static and motion palpation, as well as kinesiological manual muscle testing to locate areas of vertebral and muscle dysfunction.

Evaluation and adjustments of the lumbopelvic region were performed using the Gonstead chiropractic technique whereas the rest of the spine was evaluated and adjusted using Diversified technique. The practitioner determined the following subluxation listings at the first visit: a left internally rotated ilium (IN-ilium), a right posterior sacrum (P-R), and a posterior, right, and inferiorly fixed spinous process of the fifth lumbar vertebra (PRI-m L5).

To perform the ilium adjustment, the patient was lying with her left side up on a pelvic adjusting bench. The practitioner stood in front of the patient and contacted the medial aspect of the posterior superior iliac spine of the left ilium with her right
pisiform, stabilizing the patient’s left shoulder with her left hand. A HVLA specific thrust was delivered in the line of correction to reduce the internal rotation, pushing in a medial to lateral direction.

The fifth lumbar and the right sacrum were adjusted using similar side-posture body positioning to correct for the measured misalignments. The same adjustments were performed on the second and third visit. At each subsequent visit thereafter, full-spine evaluation and adjusting of the cervical, thoracic, lumbar spine and pelvis were performed.

Thoracic adjustments were delivered with the patient in the prone position in which the practitioner contacted the transverse process of the thoracic vertebra to be adjusted with the pisiform using primarily posterior to anterior thrusts, as well as cervical adjustments performed with the patient in a seated position with the practitioner contacting the lamina-pedicle junction of the cervical vertebra with the lateral aspect of the distal interphalangeal joint of the index finger. The attending intern also utilized a stationary Omni Drop Table (Omni Manufacturing and Design, Inc. East Bradenton, Florida) for lumbopelvic adjustments during half of the visits.

The iliopsoas, gluteus maximus, and piriformis muscles were found to be conditionally inhibited when tested manually and were re-facilitated using chiropractic adjustments, myofascial, neurolymphatic and meridian therapy. Active neurolymphatic reflex points were found on the tensor fascia lata muscle and PSIS and were reduced by manual flushing using strong, circular pressure on the points for approximately 20-30 seconds.19,23

Adjunctive care for the patient was added to the patient’s management plan at the third week to support a lifestyle that would promote healing and optimal function, including an anti-inflammatory diet (avoiding consumption of sugars, refined foods, dairy, gluten, alcohol and caffeine to reduce inflammation and ensure proper nutrition) as well as walking for 30 minutes a day to promote circulation, maintain healthy biomechanics and proprioception in the spine, and active stretching of the cervical and lumbar spine in all ranges of motion 2-3 times a day to increase mobility.25

Outcome

After the first adjustment a comparative examination was performed, finding decreased paraspinal tenderness and increased intersegmental motion of the left sacroiliac joint and L5 vertebral body. The patient reported a decrease in low back pain immediately after the first adjustment and described a pleasant “tingling in the spine.”

Following the second visit, the patient informed the attending that she had experienced the onset of her first menstrual cycle in 3 months. The patient reported heavy menstrual flow, acne, and food cravings, which the patient had not experienced with previous menstrual cycles.

At the time of this writing, the patient had experienced seven menstrual cycles within eight months since initiating chiropractic care, with varying levels of flow and menstrual cramps lasting between four to seven days. Pain severity had decreased from 9/10 to a 5/10 by the third visit her low back pain.

At the progress re-evaluation at the 6th week of care consisting of 12 visits, the patient reported that her low back pain was 6-7/10 (comparative rating of 9/10 pre-chiropractic care) once a week, mid-back pain was 6-7/10 (6/10 pre-chiropractic care) once a week, and headaches were a 2-4/10 (6-7/10 pre-chiropractic care) once every two weeks.

The patient also reported fewer anxiety attacks, asthma attacks, congestion, as well as improved sleep, and increased levels of energy. The patient’s reported reduction in symptomatology and re-establishment of regular menstrual cycle is consistent with previous literature describing similar outcomes with patients under chiropractic care.4-6,10

Discussion

This case study reported benefits in a female patient undergoing chiropractic care with a history of secondary amenorrhea. The outcomes of this study may provide additional evidence in support of the limited body of amenorrhea-related chiropractic literature.15-18

Gauthier and Mullin15 described beneficial results of Gonstead chiropractic care in a 25-year-old female with primary amenorrhea and attributed the results to “neurovertebral influence” on the nervous system.26 Courtis and Young16 reported on chiropractic management of two idiopathic secondary amenorrhea cases. The authors discussed the possible association of the patients’ thoracic subluxations and their corresponding sympathetic nerve roots influencing the suprarenals at the vertebral levels of T8-L1.

Sacral Trauma

Goodsell and Shtulman17 managed a chiropractic case involving a 21-year-old female with secondary amenorrhea following sacral trauma. The authors hypothesized that chiropractic adjustments correcting subluxations could improve neurologic function and correct the mechanoreceptive afferent input to the central nervous system thereby normalizing autonomic function. The patient’s menstrual cycle returned after 12 weeks of chiropractic care to remove subluxations.

In the current case study, following two consecutive patient visits in a period of two days, adjustments to the lumbopelvic spine resulted in the initiation of the patient’s menstrual cycle.

Chiropractic adjustments delivered at the initial visits focused on the lumbopelvic region. The theoretical framework of this approach involved the idea that menstrual function was likely affected due to the complex neuro-anatomy innervating the reproductive organs with peripheral nerves originating from the mid-lower thoracic vertebra to the sacrum.25

SI Joint Involvement

There is the possibility that a relationship exists between sacroiliac joint dysfunction and amenorrhea.28
As more comprehensive, full-spine evaluation and adjustments were implemented in the patient’s care, she experienced improvement in many other aspects of her health including musculoskeletal pain, asthma, mood and energy. Furthermore, this full-spine approach resulted in reported reduction of regional musculoskeletal symptoms as well as improvement in overall function and general health.

Although the reported outcome for the patient described in this case report was positive, limitations in the study must be acknowledged. The first limitation is that the effects of placebo cannot be discounted in this study. Note that patient compliance to specific care recommendations were also a major limiting factor.

At the second month of care, the patient self-elected to make appointments once every two to three weeks due to personal financial limitations resulting in only 25 visits out of the 48 recommended visits. With the decrease of visit frequency, the patient experienced periodic aggravation of her musculoskeletal complaints and other conditions (i.e., increase in asthma and anxiety attacks, stress, and headaches).

After receiving the dietary recommendations focusing on an anti-inflammatory diet avoiding consumption of sugars, refined foods, dairy, gluten, alcohol and caffeine, the patient reported attempts to “eat healthier” such as including more salads and fruits in her diet, but continued to eat pro-inflammatory foods such as dairy, refined sugar, and gluten.

Health complications that occurred during the period of chiropractic care included an emergency room visit for a bout of severe asthma mid-way through her care. The patient was medicated with Prednisone.

She also experienced a sinus infection that was treated medically with antibiotics, and severely high levels of stress and grief due to her work environment and a death of a close relative. The patient was also required to frequently work extensive hours of over-time at work that interfered with her ability to rest, exercise, and heal. Despite the patient’s sub-optimal care plan compliance and complicating lifestyle factors, she still experienced 7 menstrual cycles in the period of 8 months of care.

Conclusion

We reported the successful chiropractic care in a patient complaining of musculoskeletal complaints, headaches and long-term secondary amenorrhea. Given the long-term effects of secondary amenorrhea (i.e., bone loss and psychological dysfunction), we support and strongly encourage further research on the chiropractic care of similar patients.

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References