Resolution of Infertility Following Subluxation Based Chiropractic Care: A Case Study

Abstract

Objective: To discuss the care of a patient with infertility and other complaints undergoing chiropractic care to correct vertebral subluxations.

Clinical Features: Twenty seven year old female sought chiropractic care for infertility, low back pain, headaches, neck pain, mid-back pain, sinus problems, sore throat, and dizziness. Upon examination, it was revealed that she was under medical care for infertility since being diagnosed five months prior to seeking chiropractic care.

Interventions and Outcome: Chiropractic care included: mirror image adjusting, Thompson drops and Diversified adjustments with cervical extension compression traction. After two and a half months of regular chiropractic care, the patient conceived.

Conclusion: An infertile female who was diagnosed with anovula sought chiropractic care. During chiropractic care, the patient became pregnant. More research is warranted to fully explore the benefits of chiropractic care on infertility.

Key Words: Infertility, chiropractic, thermography, adjustment, vertebral subluxation, spinal manipulative therapy

Introduction

Epidemiology

Infertility in the female is defined as a condition where one is unable to produce offspring, which affects both males and females. It can be reversible or just temporary.1 One in six couples may need to seek help from a specialist because of the inability to conceive, which is considered primary subfertility, or to achieve the desired number of offspring.2 It is generally accepted that one in four women are affected by infertility, which could last up to 29 months.3,4

It is normal for women to experience some form of anovulation within their lifetime. Anovulation is as a failure of the ovaries to produce, mature, or release ova.5 This could be due to multiple reasons: a female might be pregnant, lactating, immature, postmenopausal or, neurologically there could be a distressed interaction between the hypothalamus, pituitary gland, or ovaries caused by stress or other pathologies.5 What is needed is a state of homeostasis and, when that is achieved, through either limited medical use or through the female returning to overall good health, ovulation returns to its cyclic state.6

Diagnosis

Diagnosis is usually first identified when the female shows interest in becoming pregnant but is unable to. They usually first discuss this with a medical practitioner (MD/DO) for a general workup. This includes but is not limited to a semen analysis of the male to rule out his involvement and a mid-luteal phase serum progesterone level/ovulation status to rule out her involvement.7,8 A referral to an MD/DO that specialized in the management of pregnancy and the female

Case Study

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reproductive system (OB/GYN) is usually done at this time. The specialist will perform pelvic exams and other tests to determine the etiology of anovulation. When affected patients come to a chiropractic office, their care is not subject to a simple symptom-treatment protocol of allopapy; rather, is subject to the detection and elimination of subluxations. Studies have shown that the majority of complaints from patients seeking chiropractic care are musculoskeletal in origin. However, a study showed the percentage of patients consulting their chiropractor for a non-musculoskeletal complaint is 10%.

Another study showed self-reported non-musculoskeletal responses to chiropractic intervention was 8%. Hawk et al. suggested that chiropractors do not serve as primary care practitioners for conditions other than musculoskeletal ones, which need to be managed by medical doctors; nevertheless there is a small population with complex or poorly understood etiologies who do seem to be attracted to chiropractors.

The patient presented in this case was a musculoskeletal case that desired resolution of her low back pain, but inevitably found resolution in the visceral condition of infertility.

Case Report

History

A twenty seven year old female bank teller with the chief complaint of moderate bilateral low back pain for years presented for a chiropractic consultation. She had experienced low back pain for years with varying degrees of severity. She also had complaints of occasional neck and mid-back pain after activities such as lifting. Other complaints included headaches when waking up, sinus problems, left wrist pain with occasional numbness, frequent sore throat, and dizziness.

She had a medical diagnosis of infertility associated with anovula due to infrequent menstruation. To manage the infertility, she was taking several medications which consisted of clomiphene citrate (Clomid) to induce ovulation; estradiol, which acts as growth hormone for tissue of the reproductive organs; prenatal dha (prenatal vitamin); and ethinyl estradiol (Levora).

She professed to having poor posture. On a scale from 1-10, 10 being highest, she rated stress 2/10 and exercise level 4/10.

Her past history included an emergency C-section of her first child. She also had a fairly severe motor vehicle accident in 1998 as a passenger in a car that fishtailed on a snowy road and flipped two to three times. No injuries were reported. She also advised that when she was seven months pregnant with her first child she hit a deer while driving.

She stated there were no injuries or complications. She was also in a four-wheeler accident with no complications at the time of physical. It should be stated that she showed no complaints directly related to these accidents according to allopathic standards of symptomology, however, subluxations were detected at time of examination and could have been associated with her prior traumatic events.

Examination

A chiropractic examination was performed to detect the presence and severity of vertebral subluxations. Left arm blood pressure was 110/74 mmHg, pulse was 71 bpm, and height was 5’4”. Bilateral weight was 82lbs on left, and 80lbs on right. Postural analysis revealed high left shoulder, anterior head translation, and decreased cervical lordosis.

Range of motion analysis performed using an inclinometer showed cervical impairment on extension, left and right lateral bending, and left and right rotation. Restrictions were also found at the lumbosacral regions with flexion, extension, and left/right lateral bending. Upon palpation, hypertonicity in the cervical, thoracic, and lumbosacral regions was revealed. Thermal scans detected imbalances in the cervical, thoracic, and lumbosacral regions.

Cervical x-rays were taken to evaluate the structural malformations of the spine. A cervical series including obliques and a lumbar series were taken. The x-rays were used to compare with postural mirror imaging.

Intervention

Patient was seen three times per week for eight weeks, two times per week for ten weeks, and once per week after. Per doctor’s protocol during each visit, the patient was examined using the same protocol as the physical examination above; blood pressure, pulse, bilateral weight, postural analysis, range of motion palpation, and pre-surface EMG. Subluxations were found at the upper cervical (C2), middle cervical (C4), middle thoracic (T7), lower lumbar (L4 or L5), and pelvis.

Techniques used to administer the adjustments were mirror image adjusting using a high velocity, low amplitude, and low force procedure to administer Thompson drops and Diversified adjustments. Adjustments were based on x-ray analysis and the posture assessment each time patient presented for care. Patient was also instructed to use a Dakota extension compression traction unit to assist in decreasing her forward head translation and inducing a more normal cervical lordosis.

Paraspinal thermography is a reliable non-invasive objective tool for the quantitative assessment of paraspinal muscle activity. The chiropractic adjustment activates muscle spindles, which reduces nociceptive signals via reflex inhibition and reduces pain. Studies have also shown that paraspinal thermography has excellent intra-examiner and inter-examiner reproducibility.

Thompson (drop) technique is a technique that uses the principle of terminal endpoint. This refers to the table’s drop piece, which is thought to correct vertebral subluxations at the “terminal point”- the end point. Diversified technique is considered the most generic of all techniques, in that it uses a very broad-scope to adjust subluxations. Practitioners use the various techniques, tables and modalities to accomplish their task of reducing subluxations. The analysis tool of mirror-image with extension traction has been shown in studies to be a reliable tool for anterior head translation.

Harrison et. al. showed that using drops and diversified techniques alone are
not as effective as adding cervical extension compression traction to the treatment: a great example of how delivering chiropractic adjustments with the aid of a extension compression traction unit is more effective.\textsuperscript{20}

Outcomes

Patient had approximately nineteen adjustments (two and a half months of regular adjustments) at the time of conception. After fourteen unsuccessful months, the patient found out she was in fact pregnant. She received a re-exam each month. During the first re-exam she reported resolution of her breathing issues and less dizziness. During the second re-exam she reported less sickness and colds (Figure 1.5), and on third re-exam she reported less sickness and successful conception. During the month of conception the patient chose to stop taking her prescribed medications for infertility saying, “she wanted to take a break. (Figure 1.3) Objective findings showed improvement in the thermal scan. Figure 1.4 illustrates her scan during the approximate month of conception. At the time of publication the patient is still under care for maintenance of any pregnancy related symptoms.

Discussion

Theory

There are many theories in chiropractic that set out to explain the construct of subluxation.\textsuperscript{21} The cause of subluxations is multifocal and are dependent on the individual. Disease processes happen over time due to traumas, toxins, and autosuggestions as the promoters. When these pathological processes occur in the spine and have neurological impacts, a key point in subluxation, and reaches a symptomatic threshold, a patient may seek chiropractic care to alleviate symptoms.\textsuperscript{22} Two possible models of subluxations within this patient are the dysaфферентation and/or the neurodystrophic model.

The basis of the dysaфферентation model of subluxation is that every nerve within our body needs to be depolarized in order for an action potential to reach its destination, i.e. for any action a nerve has to be stimulated to a certain threshold to transmit a signal. In neural facilitation the threshold is lowered and may be the result of a subluxation and could be caused by alterations of somatic afferent input from proprioceptive and/or nociceptive fibers.

Pain fibers from the recurrent meningeal nerve bombard the spinal cord and are capable of facilitating it or bringing it closer to threshold. This action reinforces itself causing more muscle splinting and even greater subluxations. Pottenger describes this process in the Symptoms of Visceral Disease by proffering that visceral malfunction facilitates the dorsal horns, which in turn cause muscle spasms or even subluxations via a viscero-somatic reflex.\textsuperscript{23}

A subluxation irritating a nerve (say the recurrent meningeal nerve) bombards the dorsal horn and then spills over into the sympathetic nerves causing autonomic dysfunction. Figure 1.6 best illustrates this somato-visceral reflex. Kent describes this as a neurological dysfunction of a highly innervated intervertebral disc that leads to dysponsion.\textsuperscript{21}

The neurodystrophic model states neural dysfunction is possibly stressful to the body and could lower the body’s ability to modulate immune responses; thus the immune system is thought to be an extension of the nervous system.\textsuperscript{24} Different chemical processes causes the body to respond to emotional, external, and internal stresses through this link of the nervous and immune systems. It could be further suggested that a body already at stress could be more stressed by a subluxation perpetuating this neuro-immune function reducing the bodies’ ability to balance for further stresses.

Literature

After review of chiropractic and infertility, there were a number of different techniques used, reasons for infertility, and outcomes.\textsuperscript{25,26}

An article presented three cases of resolved anovatory idiopathic infertility.\textsuperscript{27} Using NET (neuro-emotional technique), all three subjects began a normal menstrual cycle and became pregnant soon after. These results show a strong relation with the neurodystrophic model that subluxation is an added stressor to the body that could influence the infertility of an otherwise fertile female. Another case of infertility compounded with diabetes showed the resolution of her infertility and subsequent pregnancy.\textsuperscript{28}

Yet another study discussed a patient that had stress, running fatigue, and back pain who was unable to become pregnant and after five years of trying was resolved after a month of chiropractic care. Her back pain decreased and she became pregnant.\textsuperscript{29} This particular case shows the relationship of dysaфферentation model and neurodystrophic model of subluxation. Patients presenting to a chiropractic office will have stress issues promoting a subluxated state or through traumas that may or may not be evident to them causing a somato-visceral reflex. This will lead to neurological dysfunction.

Finally, a case with an infertile female with low back pain and transient numbness into her feet found relief of low back pain within two weeks of care and she also became pregnant within four and a half months.\textsuperscript{30} This is a good example how the vicious cycle of the facilitation of nerves in the somato-somatic reflex can spill over into the somato-visceral reflex.

This paper presents a case of a female who chose to stop taking her ovulation stimulating drugs and was able to conceive after undergoing chiropractic adjustments. This is not a rarity, and in each instance the patient was able to conceive only after her chiropractic adjustments were given.\textsuperscript{31,33} It should be noted that the hormonal balance of a human body and the risk factors of hormonal therapies for unfertile females should be taken into account. Studies show an increased risk of uterine cancer and overall cancers in the body due to hormonal treatments for infertility.\textsuperscript{34,36}

Limitations of Study

This is a case study of one individual and does not represent nor tries to represent the entire population. Due to the
research design (i.e., lack of controls and number of participants), all case series lack generalizability.25 Despite their biased nature, case studies provide important aspects of evidence-based practice and can direct future studies of higher design and greater generalizability. Due to the close approximation of time the patient chose to take a leave of medication and the actual time of conception, it is impossible to rule out the possible influence of medical intervention.

**Conclusion**

We presented the chiropractic care of a patient with the visceral complaint of infertility and musculoskeletal chief complaint of low back pain. The patient had been under medical care for her infertility for six months prior to seeing chiropractic care with no success. Within two and a half months of regular adjustments, the patient conceived her second child.

Children conceived by in vitro fertilization (IVF) or redirected from intracytoplasmic sperm injection (ICSI) are twice as likely as naturally-conceived children to have major birth defects.37 Chiropractic is a good option for patients seeking an alternative to the medical approach to care. It should be stated that Doctors of Chiropractic should not be the primary care provider for all visceral conditions that are acute or possibly life threatening, but for a stable patient that is looking for a better solution to their complaint.15 More research is warranted to fully understand the effects that chiropractic has on fertility.

**References**

Table 1.1

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<th>Region</th>
<th>Test-Type</th>
<th>Test-Name</th>
<th>Actual ROM</th>
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<td></td>
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ROM Table (AMA Norms)

ROM Graph on (AMA Norms)

Scan on 08/04/2010
Table 1.3

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<th>Time Line of Care</th>
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<tr>
<td>-5</td>
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<tr>
<td>Diagnosis with anovula infertility starts on Rx</td>
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<tr>
<td>-4</td>
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<tr>
<td>-3</td>
</tr>
<tr>
<td>-2</td>
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<tr>
<td>-1</td>
</tr>
<tr>
<td>Diagnosis reaffirmed and Clomid Rx is doubled</td>
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<tr>
<td>0</td>
</tr>
<tr>
<td>Starts Chiropractic care</td>
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<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>Patient quits her Rx regimen and shortly after</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>discovers she is pregnant</td>
</tr>
<tr>
<td>5</td>
</tr>
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</table>

**Key**

0=day of initial Chiropractic care

Each number represents a Month

Table 1.4

![Image of Rolling Thermal Scan NCM Bar Graph with numbers and graphs]
Figure 1.5

Figure 1.6

Subluxation → Nerve Irritation → Pain flood of dorsal horn → Facilitation of Dorsal horn

Reinforces itself with afferent stimulation

These pathways made strong could cause visceral malfunction.