

# CASE STUDY

## Healthy Pregnancy Following Chiropractic Care in Ovarian Cancer Patient After 2 Years of Infertility: A Case Report

Erika Wolcott, D.C.<sup>1</sup> & Michael Hughes, D.C.<sup>2</sup>

### Abstract

**Objective:** This case report describes the chiropractic care of a woman with a previous history of ovarian cancer and infertility.

**Clinical Features:** A 28 year old woman with a two year history of infertility following ovarian cancer and subsequent laparoscopy. Patient presented to office seeking improvements to overall health in order to increase chances of fertility. Patient had previously sought conventional medical treatments for infertility including Clomid and Perganol, both proved to be unsuccessful. At the time of physical exam patient had a chief complaint of low back pain and infertility.

**Intervention and Outcomes:** Initial examination including orthopedic, neurologic, radiologic, and chiropractic analysis were all performed to determine patient's need for chiropractic care. At each visit, prior to osseus adjustments, motion and static palpation, and visual observation were performed to detect vertebral subluxation. Treatment plan and examination protocols consisted of full-spine chiropractic adjustments.

**Conclusion:** Patient conceived naturally following completion of 14 sessions of chiropractic care. Patient carried a viable pregnancy to full term with continued chiropractic care. Chiropractic care may facilitate an increase in autonomic function and further studies are encouraged to determine the relationship of chiropractic and the restoration of reproductive system function.

**Key Words:** *Chiropractic, vertebral subluxation, infertility, cervical cancer, fertility, pregnancy*

### Introduction

According to the Centers for Disease Control and Prevention, in 2002, there were 7.3 million infertile women within the United States.<sup>1</sup> Infertility is defined as one year of attempted conception without success, and is clinically separate from spontaneous pregnancy loss.<sup>2</sup> The one year time frame is used because within one year, 85% of couples attempting

conception will have success in getting pregnant.<sup>3</sup> The inability to conceive and bear children can create a lot of stress and disappointment within a couple's relationship.

Some of the most important factors affecting a woman's fertility are related to her diet or nutrition, allergies and related food sensitivities, insulin resistance, a sluggish thyroid function, inadequate exercise, or excessive levels of stress causing adrenal impairment.<sup>4</sup> Once these factors have been ruled out as a related cause to infertility - the couple may need to undergo infertility evaluation. However, 20% of the

1. Private Practice of Chiropractic, Dunwoody, GA
2. Private Practice of Chiropractic, Jackson, MI

women seeking treatment options can become pregnant by monitoring their fertility through testing the woman's salivary hormone levels throughout her cycle.<sup>4</sup> Other evaluation methods include taking a semen analysis, utilizing a hysterosalpingogram (HSG) to assess uterus and fallopian tube function or by estimating the woman's FSH levels, which is especially important in women over 35 or with prior history of ovarian surgeries.<sup>2</sup>

The primary identifiable causes of infertility where management may be indicated include: ovulation disorders, tubal disease, endometriosis, or male factors. In 30% of cases the cause of infertility is unexplained.<sup>2</sup> The increased risk for nulliparous women could reflect an association between ovarian cancer and subfertility.<sup>5</sup> Ovarian cancer is the ninth most common cancer among women in the United States.<sup>6,7</sup>

The five year survival rate is 46%. Survival rate increases when found in women younger than age 65, detected either at their annual gynecological exam or via the two screening tests (transvaginal sonography or CA-125).<sup>7</sup> The main treatment options available to those with cervical cancer are chemotherapy, surgery, and radiation therapy. Surgical removal of the tumor may result in the removal of one or both ovaries. Removing both ovaries and/or the uterus means that the patient will not be able to become pregnant.<sup>6</sup>

Conventional medicine has provided management approaches to treat infertility ranging from synthetic hormones to in-vitro fertilization, which carry with them increased risks and possible side effects. Fertility clinics may utilize drugs such as Clomid and/or Perganol, which cause the ovaries to produce multiple eggs prior to attempted in-vitro fertilization. These modern treatment options are often very costly - up to \$30,000.00 per menstrual cycle.<sup>8</sup>

If the risk factors of modern infertility treatments do not cause motivation to seek alternative care for infertility, the economic factors might.<sup>9</sup> Chiropractic is viewed in the general public as an alternative approach to modern medicine. Chiropractic's understanding of the human body and related functions-including infertility, is found within the descriptions of interference and subluxation.<sup>10</sup>

"Interference with transmission in the body is always directly or indirectly due to subluxations in the spinal column."<sup>11</sup> Subluxation is defined as a, "complex of functional and/or structural and/or pathological articular changes that compromise neural integrity and may influence organ system function, and general health."<sup>12</sup> Chiropractors work to identify and remove the subluxation therefore allowing the nerve transmission within the body to flow, restoring autonomic function.

## **Case Report**

### *History*

A 28 year old woman presented to the office seeking improvements to overall health in order to increase chances of fertility. At the time of the physical exam, patient had a chief complaint of a three month history of low back pain and a two year history of infertility. The patient had a history including

ovarian cancer (9 years prior to initial visit) where surgical removal was necessary. The procedure had concluded with a complete removal of the right-sided ovary and only  $\frac{3}{4}$  of a functioning ovary on the left- side. Patient had a subsequent laparoscopy (1 year prior to seeking chiropractic care) which was utilized to remove previous scar tissue. The patient had previously sought conventional medical treatments for infertility including Clomid and Perganol, both proved to be unsuccessful.

### *Exam*

At the time of physical exam the patient had a chief complaint of a three month history of low back pain and 2 years of infertility. Vitals revealed varied blood pressure on each arm (98/64mmHg-on the right, and 90/60 mmHg on the left) as well as heart rate (78 beats per minute, bpm, on the right and 81 bpm on the left). Visual postural exam revealed anterior head carriage with bilateral foot pronation.

Upon Shunt Stabilization testing in the orthopedic exam, patient failed to resist perturbation in all four quadrants, where some improvement was displayed with left posterior canal support. Tuning fork noise was decreased on the left side, as well as pupillary fatigue on left eye. Palpation indicated higher musculature on the left paraspinal musculature. Conclusion of muscle testing revealed multiple vertebral dysfunctions with muscle imbalance associated with low back pain and related autonomic dysfunction.

### *Diagnostic*

Radiological exams were performed on the 5<sup>th</sup> visit, as determined by the 10-day rule. Views that were taken consisted of standard cervical and lumbar series. Impressions indicated postural abnormalities of a right lumbar lean, as well as severe anterior head carriage visualized on the cervical film. No other findings were noted.

### *Diagnosis*

After the initial history, physical exam, and radiographs were performed, it was found that the patient had multiple vertebral dysfunctions with muscle imbalance associated with the chief complaint of back pain and related autonomic dysfunction. A care plan beginning with spinal adjustments based on Diversified full spine technique was initiated.

### *Management*

Patient was advised to begin with 12-15 chiropractic visits initially to initiate autonomic reaction. The focus of the spinal adjustments were directed to the areas of diagnosed vertebral subluxations in the cervical, thoracic, lumbar and pelvic regions. Full Spine adjustments, which are described as being High Velocity- Low Amplitude (HVLA) thrusts, were applied to the regions of vertebral subluxations.

### *Outcome*

After 14 visits patient announced she had conceived naturally. The patient was able to carry pregnancy to full term and she continued chiropractic care throughout her pregnancy. The

patient delivered a healthy baby by vaginal birth.

## Discussion

Infertility is a growing health issue not only in the United States, but across the world. In addition to modern medical interventions for the treatment of infertility many couples are seeking alternative treatment methods that are lower cost and less invasive. Chiropractic care can improve the autonomic nervous system function of the body including the reproductive organs by reducing subluxations.<sup>13</sup>

The subluxation can create a dysfunctional nervous system that can influence the female sex organs: the reproductive system is innervated by the nerve roots of T12, Lumbar and the Sacrum. T12, L1 and the sacrum, are most closely related to the innervations of the cervix and uterus along with other female external genitalia.<sup>14</sup> The mechanism of the removal of subluxation by chiropractic adjustment can restore the nervous system and balance the functions of the reproductive system thus increasing the woman's ability to conceive.<sup>13</sup>

The patient described in this case history had been diagnosed with infertility following her surgical removal of ovarian cancer which left her with only  $\frac{3}{4}$  of a functioning ovary. The patient underwent 14 visits of chiropractic care focused on her areas of Subluxation - including the regions that directly innervate the reproductive system. Following her chiropractic care the patient was able to conceive naturally and deliver a healthy baby.

## Review of the literature

A search on PubMed using the key words "chiropractic" and "Infertility" resulted in zero matches. The articles listed in Table 1 are a compilation of matching articles found from the Index to Chiropractic Literature, also using the key words "chiropractic" and "infertility". The results of the current review of the literature are presented in Table 1. Documentation of the woman's age, length of infertility, technique applied, related history/previous infertility treatments, and length of receiving chiropractic care preceding conception are listed.

Twelve articles were found in the literature search describing fourteen patient case reports.<sup>15-28</sup> The age of the patients ranged from 22 years old to 65 years old. Eight of the women had sought previous treatments for infertility prior to chiropractic care including a history of infertility medications - three of which also included in-vitro fertilization attempts.

Length of infertility ranged from 7 months to 12 years. Chiropractic treatment length varied from 2 weeks to 20 months and the care resulted in 13 of the 14 patients with documented conception. Information regarding the only case listed where the patient had not conceived can be found in Ressel's article which describes a case history of a 65 year old female patient who had secondary amenorrhea since the age of 18 and after the application of chiropractic care the patient had a restoration of a normal menstrual cycle after four weeks of treatments.<sup>23</sup>

## Conclusion

This case report followed the results of one patient that presented with a chief complaint of low back pain along with a two year history of infertility after ovarian cancer and laparoscopy. Following 14 sessions of chiropractic care the patient was able to conceive naturally. We encourage further research as well as publication of related chiropractic cases and the issues of infertility to bring further awareness to the field as well as our patients.

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**Table 1**

Author	Woman's Age	Length of infertility	Technique	Previous Care/ Hx	Length of chiropractic and Pregnancy
Alcantara	33	4 years	Diversified	Acupuncture, infertility drugs, 2 failed IVF	Within 6.5 weeks
Alcantara	33	2 years	Diversified	2 rounds of Clomid,	Within 8 weeks
Alcantara	35	7 months	Diversified	Hx of irregular menses	Within 2 wks- miscarried. Again in 5 months - carried to term.
Adams	22	7 years (primary amenorrhea)	AK/Full Spine	None	Within 20 months
Anderson-Peacock	35	2 years	TRT	None	Within 2 months
Anderson-Peacock	36	5 years	TRT	Blocked L fallopian tube, damaged R fallopian tube	Within 3 months
Bedell	27	9 months	TRT & Activator	Ulcerative Colitis, 2 miscarriages. Clomid & Synth. Progesterone	Within 3 months
Kaminski	31	12+ months	Diversified & TRT	Clomid for 3 mos, laparoscopy	Within 9 months
Lyons	27	5 years	Gonstead	Fertilization drugs	Within 1 month
Nadler	42	Perimenopause	TRT	Jewish religious prohibition of intimacy during menstrual period and surrounding days	Within 5 months
Ressel	65	Amenorrhea at age 18	Thompson	None	Cycles restart in app 4 weeks
Rosen	34	12 years	SOT	Previous in-vitro, Fertility drugs	Within 6 weeks
Shelley	32	2 years	DNFT	Artificial Insemination Clomid & IVF	Within 3.5 months- w/ IVF
Sims	23	1 year	Diversified	BCP at age 17- off at age 22 when	Within 4.5 weeks
Yost	28	1 year +	Diversified, Thompson	Prev. infertility medication & conception.	NA- 2 conceptions, non carried to term