



Intermittent low back pain referred from a uterine adenomyosis: a case report

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Abstract

Objective: The purpose of this case study is to describe the clinical course and treatment of a female patient with intermittent low back pain (LBP) that was associated with a uterine adenomyosis.

Clinical Features: A 45-year-old woman presented for chiropractic care with intermittent LBP of 4 years' duration. History revealed concurrent dysmenorrhea, menorrhagia, and a uterine leiomyoma (fibroid). Physical and radiological examination findings were unremarkable, and the LBP was not reproducible.

Intervention and Outcome: Activator Methods chiropractic adjustments/manipulations were given twice per week for 4 months with moderate results. The frequency and duration of low back and pelvic pains were reduced; however, the severity remained constant. A further gynecological opinion was sought, a transvaginal ultrasound was performed, and the patient's diagnosis was changed from leiomyoma to adenomyosis.

Conclusion: In this case report, a woman presented with a 4-year history of intermittent LBP, which was sometimes associated with menstruation. Despite being diagnosed with uterine adenomyosis, she received some relief from chiropractic care.

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Introduction

Low back pain (LBP) is the most common reason for seeking chiropractic care in the United States¹ and one of the most common reasons for visits to medical doctors and physical therapists.² The etiologies of LBP are often thought to include biomechanical musculoskeletal

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disorders, such as strains and disk herniations³; and, less commonly, LBP is thought to refer from underlying viscera, such as from renal disease,^{4,5} aortic aneurysm,⁶ or metastatic prostate cancer.^{7,8}

There is evidence to suggest that chiropractic care is an effective intervention for mechanical LBP—both acute and chronic.⁹⁻¹¹ However, little evidence currently exists on the effectiveness of chiropractic care for referred LBP.

Other sources of pain referred to the low back in females of reproductive age include uterine conditions such as endometriosis and adenomyosis.^{12,13} The evidence suggests that endometriosis may occur in up to 33% of menstruating females,¹⁴ whereas adenomyosis, a variant of endometriosis, may have an incidence of up to 20% of the same population.^{15,16}

The aim of this case study is to describe a patient presenting with marked, nonreproducible LBP that may have a nonmechanical etiology. A further aim is to provide a brief review of adenomyosis, including clinical presentation and current treatments.

Case report

A 45-year-old white nulliparous woman, weighing 183 lb and standing 5'7" (body mass index, 30.4), presented with a chief complaint of diffuse LBP of 4 years' intermittent duration. In addition, she reported to occasionally have concurrent marked lower abdominal pain and cramping, mainly on the right, but also on the left, and an extremely heavy menstrual flow. These pains (LBP and abdominal) were often related to her menstrual cycle, frequently occurring premenstrually and/or during menses; but also, they could occur at any point in her menstrual cycle. Therefore, they could not accurately be described as "cyclical" in nature. In addition, the marked LBP was frequently present independent of abdominal pain. She reported that the pains originally started after she relocated to a different city for work, and they were not the result of mechanical strain. She also reported having no prior history of abdominal or LBP. When her symptoms first began, a gynecological opinion was sought; and a diagnostic ultrasound confirmed a medium-sized uterine leiomyoma (4.5 cm in diameter). It was decided that no intervention would be commenced at that time, but the condition would be monitored regularly.

She described the LBP as a severe, yet vague, ache, occurring bilaterally mainly over the sacroiliac

joints and lumbosacral junction; but she could also have pain in her lumbar spine, acetabulofemoral joints (mainly anterior), groin/inner thighs, and lateral thighs to just above the knee (Fig 1). The pains could last for as little as 1 to 2 days or for as long as 2 weeks at a time and vary in intensities from mild (2/10) to severe (10+/10), and it seemed to get worse with time. She reported experiencing temporary relief from heat therapy such as hydrotherapy and hot packs, and also from massage and nonsteroidal anti-inflammatories (NSAIDs) such as acetaminophen and aspirin; however, the pains usually returned within a few hours. She reported taking no other medication and did not have an intrauterine device. In addition, on a number of occasions over the 4 years' duration of these symptoms, other pelvic etiologies were investigated and ruled out, including bladder and other urinary tract structures, kidneys, large and small bowels, appendix, abdominal vasculature, and ovaries. Furthermore, she was screened repeatedly for urinary tract infections and sexually transmitted diseases, the results of which were all negative.

For relief, she tried other noninvasive therapies such as diversified chiropractic adjustments, acupuncture, Rolfing, craniosacral therapy, herbal remedies, functional nutritional therapy, Neuro Emotional Technique, and Reiki, some of which helped in the short term only. Each time, the symptoms recurred in the ensuing weeks or months.

With frustration, she reported that nothing she specifically does brings on the pains. Other symptoms associated only with the pains include a depressed mood, cravings for carbohydrates and caffeine, and fatigue. When there was no pain, she did not experience these other symptoms. She also reported that the presenting symptomatology markedly disrupted her normal routines, such as productivity at work, going to

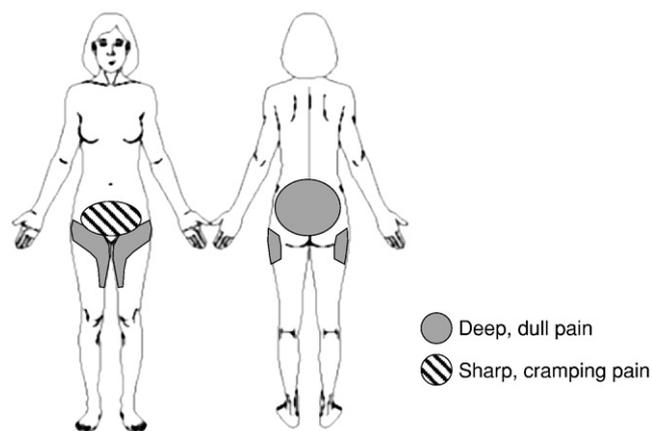


Fig 1. Case pain pattern.

the gym, and socializing with friends. These activities were also not affected if the symptoms were not present. The result of physical examination that included a full orthopedic and neurological assessment was unremarkable, aside from marked lumbopelvic paraspinal muscle spasm (L1-sacrum). Radiological examination of the lumbopelvic spine revealed no abnormalities other than asymmetrical lumbosacral facets and a mild hypolordosis.

The retrospective observation period was 4 menstrual cycles with treatment delivered twice per week during this time (ie, 2 visits per week for 4 months). Treatment consisted of a combination of chiropractic spinal adjusting using the Activator Adjusting Instrument and following Activator Methods protocol, which has been specifically outlined elsewhere.¹⁷ Activator Methods was chosen because the patient requested a low-force adjusting technique. In addition, the patient continued to take NSAIDs as needed to maintain her normal activities. As shown in Table 1, the patient experienced some pain relief during the course of treatment. She reported a reduction in the frequency and duration of the LBP and abdominal pain; however, the severity of the LBP often remained marked. The patient gave consent to have personal health information published without divulging personal identifiers.

After the 4 months of care, during a routine gynecological visit, another diagnostic ultrasound was performed. This ultrasound suggested the presence of a uterine adenomyosis rather than a leiomyoma. Therefore, because of these findings and also because of the patient's history and clinical presentation and of the lack of lasting relief from previously tried interventions, it was determined by her gynecologist that the condition more resembled an adenomyosis than a leiomyoma.

Therefore, the patient's diagnosis was changed from uterine leiomyoma to uterine adenomyosis.

Discussion

The exact etiology of LBP is often difficult to definitively determine.¹⁰ In this case study, the patient's LBP was vague and intermittent, and absent on the day of presentation. Furthermore, the patient reported that she could not actively reproduce the pain; and it could not be elicited during physical examination. The discerning practitioner would recognize that these signs and symptoms are indicative of referral from underlying visceral pathology.¹⁸

Referred pain was first described by Head¹⁹ in 1893; however, the term has not yet been formally defined by the International Association for the Study of Pain.²⁰ For clarification, the following definition of *referred pain* will be used in this report: "Pain that is felt in a part of the body at a distance from its area of origin."²¹ Referred pain has been described as nonspecific, deep, diffuse, and dull.²² The exact mechanism responsible for referral is not yet known, although a number of neuroanatomic and physiologic theories have been suggested.^{3,18,22} Furthermore, *referred pain* differs from *radicular pain*, which is pain originating from a nerve root.²³

There are a number of female visceral conditions that are thought to refer pain to the low back, including endometriosis.¹² Endometriosis is a condition in which endometrial-like glands are found in atypical locations, usually outside the uterine cavity, and affects women of reproductive age.²⁴ Although not yet well understood, endometriosis has been associated with pelvic pain, back pain, chronic dysmenorrhea, painful urination, bowel movements, and sexual intercourse.¹² Adenomyosis, a variant of endometriosis in which ectopic endometrium is found within the myometrium, is most prevalent in women aged 35 to 50 years.²⁴ Largely underdetected,²⁵ adenomyosis is diagnosed through transvaginal ultrasound or magnetic resonance imaging.²⁶

Common medical management of adenomyosis includes NSAIDs for pain relief; and for dysmenorrhea, various hormone therapies are used. For instance, patients are often prescribed agents that suppress ovarian activity such as gonadotropin-releasing hormone agonists²⁷ and levonorgestrel-releasing intrauterine devices.²⁸ Other invasive management includes uterine artery embolization, surgical excision of the adenomyotic tissues, and hysterectomy.²⁷ The effec-

Table 1 Results after activator methods therapy

Menstrual period	1st	2nd	3rd	4th
Medication consumption (capsules) ^a	6	2	2	0
LBP (NRS)	3	0	0	0
Abdominal pain	Mild	Mild	None	None
Lumbopelvic paraspinal muscle spasm	Marked	Moderate	Moderate	Moderate
Disruption of normal daily activities	Marked	None	None	None

NRS, Numerical Rating Scale, 0 to 10 (0, no pain; 10, worst pain ever).

^a Total number of capsules consumed per period. Each capsule contains 500 mg of acetaminophen.

tiveness of many of these interventions has a limited term,²⁹ and patient satisfaction of them has not been measured.

Whereas to date there are no complementary or alternative interventions reported in the literature specifically for adenomyosis, a number of noninvasive interventions are described for dysmenorrhea, endometriosis, and chronic pelvic pain (CPP). *Dysmenorrhea* may be defined as painful menstruation, whereas *primary dysmenorrhea* refers to painful menstruation that has been present since menarche, and *secondary dysmenorrhea* refers to painful menstruation that developed sometime after menarche as a result of a specific disorder (eg, endometriosis).²¹ An example of a noninvasive intervention for these conditions is topical heat, which has been shown to be more effective than NSAIDs at temporarily relieving the pain of dysmenorrhea.^{30,31} In addition, there is some evidence to suggest that a diet high in green vegetables, fiber, fish oil, and vitamins B₁ and B₁₂, and low in red meat, eggs, and cheese may reduce the risk of dysmenorrhea.³²⁻³⁴ Furthermore, there is little evidence to suggest that exercise,³⁵ magnesium or vitamin E supplementation,³³ psychotherapy,³⁶ or behavioral interventions³⁷ are effective at improving the symptoms of dysmenorrhea.

On the other hand, there are a number of alternative hands-on interventions for dysmenorrhea described in the literature that show conflicting evidence. In one prospective case series on the impact of chiropractic drop table lumbosacral adjusting on primary dysmenorrhea, particularly premenstrual syndrome symptoms, all the women participating reported at least some reduction in lower abdominal pain and LBP.³⁸ Furthermore, a randomized, placebo-controlled, crossover, clinical trial comparing manual diversified chiropractic adjustments and sham Activator adjustments found mixed and interesting results.³⁹ Both groups reported a reduction in premenstrual syndrome symptoms, with the greater reduction found in the initial treatment group. Conversely, the initial placebo group reported no further relief during the second phase of the trial when they received actual chiropractic adjustments, which the authors attributed to a flawed sham procedure. In addition, there are a number of encouraging studies to support spinal manipulation for CPP. For instance, chiropractic flexion/distraction and trigger point techniques⁴⁰ and distractive decompressive manipulation⁴¹ seemed to have provided short-term relief to women with CPP. However, it must be noted that these latter 2 studies were not experimental in design and, therefore, cannot be considered strong support.

Systematic reviews, which are considered the best evidence of effect,⁴² are generally inconclusive for the use of alternative hands-on therapies for dysmenorrhea. For instance, reviews on spinal manipulation⁴³ and acupuncture and acupressure therapy⁴⁴ for endometriosis and dysmenorrhea demonstrate inconsistent results, with some trials finding effect and others not. These inconsistent results may be due to the small number of trials reviewed, the small sample sizes within each trial, or the heterogeneity of the trials reviewed.⁴⁵ Or indeed, these results may be due to the intrinsic problems of doing randomized trials on hands-on interventions.⁴⁶ Regardless of the reason, the lack of strong evidence does *not* mean that these interventions are not worthy of consideration. It simply means that there is a lack of evidence.

However, there is evidence to suggest that vertebral displacements may alter somatosensory signals of afferent nerves.⁴⁷ There is also some evidence that altered neurological function may then cause organic dysfunction.⁴¹ From a theoretical perspective, it would then follow that correction of vertebral displacements would improve or prevent organic dysfunction, which is a common assertion of basic chiropractic theory.⁴⁸ Therefore, hypothetically, this patient's improvements may have been the result of her receiving regular chiropractic adjustments. On the other hand, the two may have nothing to do with each other. Caution must be exercised in drawing definite conclusions from case studies such as this because of the limitations of this study design. For example, because of the uncontrolled environment, confounders are readily introduced that may markedly impact patient outcomes.⁴⁹ Furthermore, the changes that the patient experienced may be attributed to the natural history of the condition,⁴⁹ especially conditions with intermittent symptoms as in this case, and not the intervention used. A cause-and-effect relationship may only be established through rigorous clinical trials.⁴² Therefore, it is not possible to generalize the results beyond the case in question.

It is encouraging that this patient experienced a temporary improvement in the frequency and duration of her LBP during the course of her chiropractic care. In this case, Activator Methods adjusting protocols were used because of patient preference. However, it is speculated that how the patient was adjusted (eg, Activator Methods, in this case) was less important than the fact that she was adjusted consistently. It is noted that the patient had had chiropractic care previously, but only when she was symptomatic: She would get adjusted when the LBP started. This time, she committed to and followed through with a regular

and consistent schedule of care. This may have made this difference in her positive outcomes this time—but perhaps not too. It is further theorized that the confidence that the patient has in her practitioner and in her own ability to heal (ie, “hope”) is also of great consequence to her outcome.

Because there is little strong evidence supporting the use of alternative or noninvasive interventions for lasting relief of LBP referred from endometriosis and because of the high prevalence of endometriosis (33% in women of childbearing age¹⁴ and 47% in infertile woman⁵⁰), future research in this area is of paramount importance. Randomized clinical trials are urgently needed comparing the efficacy of noninvasive interventions currently used, such as chiropractic care and acupuncture, and also of a number of different chiropractic techniques. In any event, further investigation into the effectiveness of chiropractic care for pain referred from a uterine adenomyosis is required before generalizations can be made.

This case is the first in the chiropractic literature that describes the presentation, treatment, and clinical course of a woman with the diagnosis of uterine adenomyosis presenting with LBP. As was the primary objective of this report, this case demonstrates that marked LBP can be referred from structures other than from the neuromusculoskeletal system. It is imperative that chiropractors recognize when LBP may be of visceral origin. If physical and radiological examinations are unremarkable and if, after a limited period of chiropractic care, outcomes are less than expected, referral to an appropriate specialist is warranted.

Limitations

Caution about generalizing these results to other patients is advised. Although this patient seemed to show relief from care, this does not mean that others will respond in a similar manner. It is recommended that if, after a trial of conservative treatment, outcomes are less than expected or unsatisfactory, further etiological evaluation is warranted; and referral to a medical specialist may be necessary.

Conclusion

In this case report, a woman presented with a 4-year history of intermittent LBP, which was sometimes associated with menstruation. Despite being diagnosed with uterine adenomyosis, she seemed to get some

relief from Activator Methods chiropractic spinal adjustments. Low back pain can have nonneuromusculoskeletal origins. Endometriosis and its variant, adenomyosis, can present with a variety of symptoms, of which LBP is very common. Practitioners who address the spine should be mindful of this condition when a female patients presents with intermittent or cyclical LBP, especially when it is not reproducible. A thorough history and examination may point practitioners to suspect an underlying visceral condition. There are little strong evidence in support of noninvasive interventions for endometriosis and a limited amount of weak evidence to support spinal manipulation for endometriosis.

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