Clinical Chiropractic (2006) 9, 34—38

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Clinical Chiropractic

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CASE REPORT

Relief of depressive symptoms in an elderly patient with low back pain

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Received 24 March 2005; accepted 1 September 2005

KEYWORDS
Depression;
Low back pain;
Chiropractic;
Therapy

Summary

Objective: To describe the case of a patient with depressive symptoms which improved while under chiropractic care for low back pain, and to discuss the clinical features of depression, including screening.
Clinical features: A 71-year-old female with low back pain sought chiropractic care. Her initial score on the Beck Depression Inventory (BDI) was 8.
Intervention and outcome: The patient was treated with flexion-distraction chiropractic technique, moist hot packs, and interferential current to the lumbar spine a total of 11 times over 11 weeks. The BDI was administered at baseline and again three times during care. Her scores went from 8 (indicated moderate depression) to 4 (indicating no or minimal depression) to 0 during her care.
Conclusion: While non-musculoskeletal complaints as a chief complaint make up a small percentage of chiropractic practice, chiropractors see large numbers of patients with low back pain and depression. There is scant literature about the effect of chiropractic care as a treatment for depression. There are reports of other complementary and alternative medicine CAM treatments for patients with depression as well as reports of depression screening and awareness in chiropractic practice. This patient's depression improved while under chiropractic care for her low back pain. This may have been due to a variety of factors, such as natural progression, therapeutic effect of touch, patient—doctor interaction, or improvement secondary to the improvement of her back pain.
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Introduction

Depression is a clinical entity commonly seen in association with chronic pain such as low back pain.[1] Elderly patients are particularly susceptible to depression as well as chronic pain.[2,3] Psychosocial factors such as depression have been reported to slow a patient's recovery from pain and injury.[4] The purpose of this paper is to describe the case of a woman whose depressive symptoms improved while under chiropractic care for low back pain, and to discuss the

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doi:10.1016/j.clch.2005.09.001

clinical features of depression, including depression screening.

Case report

A 71-year-old female sought chiropractic care for low back pain of 12 years' duration. Physical examination findings included normal vital signs, reflexes, sensation, and motor function. Tenderness and hypertonicity of the bilateral lumbar paraspinal muscles and tenderness of the L3 through L5 segments were noted. Radiographs revealed anterior compression fractures of the T11, L1, L2, and L3 vertebral bodies. The age of these fractures could not be determined; however, the radiologist felt the fractures were stable. Her initial score on the Beck Depression Inventory (BDI) was 8, indicating moderate depression. She indicated that she was currently experiencing depression and mood swings but did not have a history of depression and had never been diagnosed with depression. We advised the patient of the possibility of acute spinal compression fractures and advised her to seek medical care. She saw her family physician, who reviewed the X-rays taken in our clinic and prescribed analgesics. Her family physician also advised her not to receive chiropractic care. Twelve weeks later, she was still suffering from back pain, so she returned to our clinic for chiropractic care. She reported a slight improvement in her back pain since her first visit, and her BDI at this time was still 8.

The patient was treated with flexion-distraction chiropractic technique to the lumbar spine, moist hot packs, and interferential current a total of 11 times over 11 weeks. Flexion-distraction technique was applied to the lower lumbar segments L2—L5, beginning with flexion motion and increasing in repetitions throughout the course of care. Lateral flexion and then circumduction were added as her pain improved. In addition to the BDI, the Global Well-Being Scale (GWBS) and Visual Analog Scale (VAS) for pain were administered at intervals during her care (Table 1).

Her initial BDI score indicated moderate depression. Her initial rating of pain was 33 mm on a scale of 0—100 mm and her rating of well-being was low

Table 1 Patient outcomes at baseline and follow-up intervals.

	Baseline	First treatment	16 weeks	24 weeks
BDI (points)	8	8	4	0
VAS (mm)	33	46	11	7
GWB (mm)	17	52	23	77

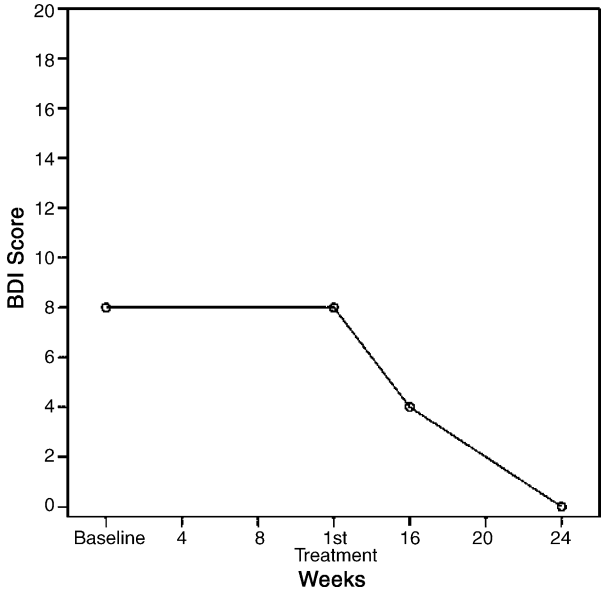

Figure 1 Beck Depression Inventory (BDI) scores at baseline, first treatment, and 16- and 24-week follow-up. The BDI is a 13 item questionnaire with a score of 0—4 indicating none or minimal depression; 5—7 mild depression; 8—15 moderate depression; and 16 or greater indicating severe depression.

(17 mm on a scale of 0—100 mm).[5] Her final scores indicated minimal or no depression and pain, and greatly increased perception of well-being (Figs. 1—3).

Discussion

The generic definition of depression is an alteration of mood or emotion, as well as physical changes, characterized by apathy, negativity, feelings of worthlessness, and fatigue sufficient to interfere with normal daily activities. The definition from the National Institute of Mental Health is

"A depressive disorder is an illness that involves the body, mood and thoughts. It affects the way a person eats and sleeps, the way one feels about oneself, and the way one thinks about things. A depressive disorder is not the same as a passing blue mood. People with a depressive illness cannot merely 'pull themselves together' and get better. Without treatment, symptoms can last weeks, months or years. Appropriate treatment, however, can help people who suffer from depression."[6]

The Diagnostic and Statistical Manual, 4th ed. (DSM-IV)[7] defines depression thus:

1. At least five of the symptoms described below are present during the same two-week period.
2. These symptoms must represent a change from a previous level of functioning.

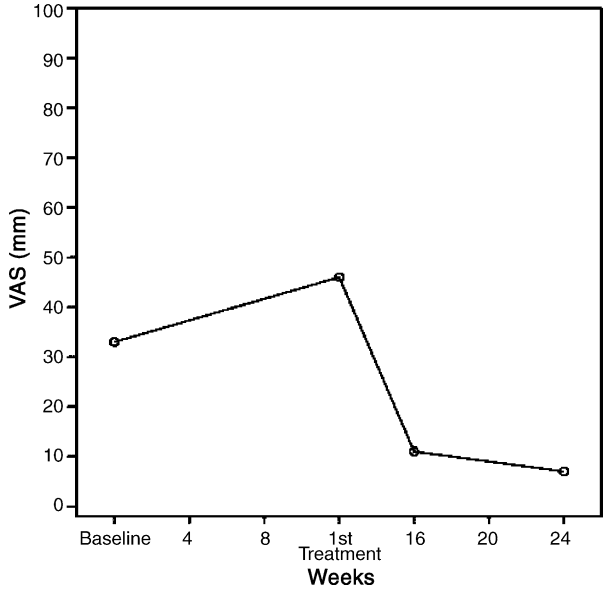

Figure 2 Visual Analog Scale (VAS) measurements at baseline, first treatment, and 16- and 24-week follow-up. The VAS is a 100 mm line anchored with 0 = no pain and 100 = worst pain you have ever felt.

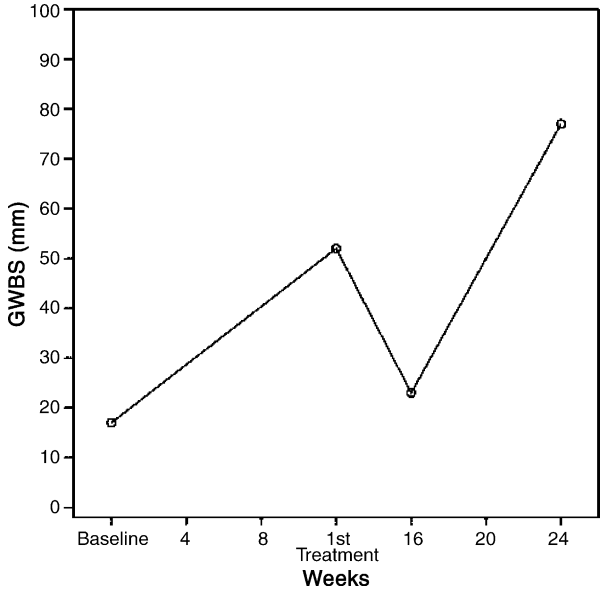

Figure 3 Global Well-Being Scale (GWBS) measurements at baseline, first treatment, and 16- and 24-week follow-up. The GWBS is a 100 mm line anchored with 0 = worst you could possibly feel and 100 = best you could possibly feel.

- Depressed mood, nearly every day during most of the day.
- Marked diminished interest or pleasure in almost all activities.
- Significant weight loss (when not dieting), weight gain, or a change in appetite.
- Insomnia or hypersomnia (excess sleep).
- Psychomotor agitation or psychomotor retardation.
- Fatigue or loss of energy.
- Feelings of worthlessness or inappropriate guilt.
- Impaired ability to concentrate or indecisiveness.
- Recurrent thoughts of death or recurrent suicidal ideation.

There are a number of different forms of depression, and nearly everyone will suffer from depressive symptoms at some point in their lives, though this in itself would not qualify one as having suffered from the condition; depressive feelings can be a normal emotional response to happenings over the life cycle of a person. When it is an illness, depression can be socially debilitating, and may affect not just emotional control but the physical characteristics of the patient as well as cognition, mood, and impulse control.[8,9] A depressive patient may experience not only just feelings of worthlessness but also lack of energy, difficulty in concentrating, and loss of energy or of interest in favored activities.

Depression is a common problem, which may affect anywhere between 15 and 30% of the population at some point in their lives.[10] Its current prevalence rate is approximately 5.3% of the adult US population; annually, 12% of women and 7% of men will suffer an episode. Annually, 4% of adolescents will suffer serious depression.[11] The clinical features of depression include depressive mood to an abnormal or accentuated degree and loss of interest in activities that are normally pleasurable. Additional symptoms can include decreased energy or increased fatigability, loss of confidence or self-esteem, excessive or inappropriate feelings of guilt, recurrent thoughts of death or suicide, indecisiveness and inability to concentrate, agitation or sedation, sleep disturbance, and change in appetite with corresponding weight change.[7]

This patient's depression and pain improved during her care. Her perception of well-being also improved as she experienced reduction of her low back pain. Chronic pain, including low back pain, is a complex problem. Middleton and Pollard have discussed the concept of "yellow flags" in the literature recently.[12] These are psychosocial conditions, such as depression, that may lead to poor outcomes for patients with chronic pain. For more information about yellow flags, see their article.[12]

Diagnosis

Screening: screening for depression in the chiropractic practice can be fairly easily accomplished. We used

the Beck Depression Inventory version I (BDI-I), which is a valid and reliable instrument, developed for depression screening in family practice.[13,14] The BDI-I is a 13-item questionnaire. A score of 0—4 indicates none or minimal depression; 5—7 mild depression; 8—15 moderate depression; and 16 or greater indicates severe depression. The BDI has been updated since our use of the BDI-I, and in its most recent form, as the BDI-II, now has 21 questions.[15,16] The developers of the BDI-II report better sensitivity and reliability with the BDI-II over the BDI-I. The BDI-II has been validated for patients between the ages 13 and 80.

Other screening instruments are available, including geriatric specific instruments. The Geriatric Depression Scale, for example, is available in a variety of languages, and in a short form of 15 questions, as well as a full form of 30 questions.[17] The U.S. Preventive Services Task Force (USPSTF) currently recommends that all adults be screened for depression in clinical practices that have systems in place to assure accurate diagnosis, effective treatment, and careful follow-up. Two questions should be asked at the least: over the last 2 weeks have you ever felt down, depressed, or hopeless? And, over the last 2 weeks, have you felt little interest or pleasure in doing things? These two questions may be as effective as lengthier screening tools.[18]

In chiropractic practice, it is likely that screening will be used, with referrals made when a more formal or rigorous diagnosis is necessary. There are no laboratory tests for depression nor are there typically any physical findings, and thus it is likely that the criteria from the DSM-IV will be used. Generally, these findings should have been present for the past 2 weeks: poor appetite or increased appetite; sleep disturbances; anxiousness and anxiety; psychomotor abnormalities; decreased sex drive; loss of interest in favorite activities; feelings of worthlessness; difficulty in concentrating; indecisiveness; suicidal ideation; and thoughts of death.[8]

It is important to note that depression may accompany other illnesses or can arise from drug interactions, and thus a complete work-up should take this into account. It is also important to note that the prevalence of depression increases with age so that the elderly should receive special consideration.

The differential diagnosis for depression may include premenstrual syndrome, hypothyroidism, hypoglycemia and/or diabetes mellitus, seasonal affective disorder and drug reaction. Each of these can be ruled out through good history taking and by appropriate tests.

Because depression often involves somatic manifestations, a physician should examine the spine and pelvis, and note the posture presented by the patient. There may be areas of muscle hypo- and/or hypermobility and tonicity, as well as joint fixation in areas subject to additional stress due to poor posture.

Management

Appropriate management of depression is important, especially in the elderly who are at high risk for suicide.[19,20] Antidepressant medications may be very successful, although many have undesirable side effects.[20—22] Psychotherapy is often used in addition to medications.[23,24] Psychotherapy may be beneficial alone or in combination with other treatments.[23,24] There is scant literature about the effect of chiropractic care as a treatment for depression; however, there are reports of other CAM treatments for patients with depression.[25]

While non-musculoskeletal symptoms as a chief complaint make up a small percentage of chiropractic practice, chiropractors see large numbers of patients with low back pain. Chronic pain, including low back pain, is often associated with depression. This patient's depression improved while under chiropractic care. This may have been due to a variety of factors. Natural progression cannot be ruled out, nor improvement in her depression secondary to improvement in her low back pain. Hoiriis et al. reported no difference in improvement of depression in patients treated with manipulation, muscle relaxants and placebo.[26] The therapeutic effect of touch has been documented as well.[24,25,27] The interaction between the patient and doctor may also have been the reason for improvement in depression. This might be especially important in the care of elderly patients, who often suffer from social isolation.

One notable paper by Simon et al. investigated general mental health visits to CAM providers, looking at data drawn from a variety of CAM providers (acupuncturist, chiropractors, massage therapists and naturopathic physicians) located in four states.[28] It found that fewer than 1% of visits to chiropractors were for mental health complaints, while the rates for the other professions was nearly 10 times higher. Several possible explanations were posited: people with mental health complaints may not refer themselves to chiropractors; those who visit chiropractors for other reasons may not inform them of a concomitant mental health problem; and patients may not recognize that they indeed have a mental health problem.

Conclusion

This case is important because it illustrates the need for chiropractors to be aware of screening for depression and to be knowledgeable about the management of depression, especially in the elderly population. At present, there are no trials for any

manipulative intervention for depression and in the case described here, the depression may have arisen because of the back pain; consequently, when the pain resolved, this did much to lift the depression as well. Prior to implementing controlled trials for manipulation as an intervention, more work needs to be done. Case series of patients with depression treated with manipulation are a necessary first step. Work also needs to be done on the mechanisms involved, and a theoretical base developed before clinical trials could be considered.

Acknowledgements

The authors wish to thank Cynthia R. Long, Ph.D., for her help in preparing figures for the manuscript.

This investigation was conducted in a facility constructed with support from Research Facilities Improvement Grant Number C06 RR15433 from the National Center for Research Resources, National Institute of Health.

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