CASE STUDY

Chiropractic Management of a Man with Bipolar Disorder, Depression, Hemichorea & Subluxation

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ABSTRACT

Objective: To review features of a 52-year-old man diagnosed with bipolar disorder who presented for chiropractic care displaying symptoms of anxiety and hemichorea movements.

Clinical Features: The bipolar patient sought care for low back pain, while displaying depression with episodic anxiety attacks associated with hemichorea.

Interventions and Outcomes: He was adjusted using Thompson Technique protocol and advised on the benefits of omegea-3 fatty acids. After 4 visits, the hemichorea associated with his anxiety attacks had subsided, and his depressed state had improved.

Conclusion: This case is important on many levels. It suggests that chiropractic care may have a positive effect on bipolar disorder and chorea movements. Further research is needed to investigate the effects of chiropractic on bipolar disorder and hemichorea.

Key Words: *Chiropractic, bipolar disorder, Thompson Technique, hemichorea, chiropractic, omega-3 fatty acid, mania*

Introduction

Bipolar disorder (BD) is characterized by excessive high and low emotional moods, which must occur over the course of many years. Although bipolar disorder has been documented since the time of Hippocrates, unfortunately even today there is truly very little mainstream clinical insight into the origin and effective treatment of this condition. Since World War II an increase in incidence has spiraled upward and many say that despite the rise, the amount of people who are diagnosed is minuscule.[1]

The effects of bipolar disorder are far reaching. More than half of bipolar disorder individuals are also substance abusers and suffer the highest suicide rates of all psychiatric disorders.[2,3]. Bipolar disorder is a very difficult condition to control and even aggressive pharmacological maintenance has not proven to be effective.[4] It affects a person's mood, finances, sexuality and personal relationships. It also contributes to the inability to maintain steady employment and hinders social functioning.[5,6] In addition, co-morbidities may also be present, which include: panic attacks, obsessive-compulsive disorder, substance abuse, attention deficit disorder, oppositional-defiant disorder, asthma, schizophrenia and migraine headaches.[3] A recent functional MRI study found that there is cortical involvement which inhibits cognitive processing, such as working memory.[7]

Case Report

Patient History

A 52-year-old male presented with bilateral low back pain which he described as achy between his posterior superior ischial spines bilaterally; and mild, diffuse neck pain throughout the cervical spine. He was diagnosed with bipolar disorder in 2001 and has chosen not to take medication for the condition. He is currently unemployed due to the effects of his disorder. His anxiety had recently increased a great deal due to financial concerns. At the time of the physical, the patient had experienced 6 or 7 anxiety attacks in the previous 2 weeks.

When he has an anxiety attack, he experiences hemichorea in the left upper extremity. Chorea is described as a disease of the nervous system characterized by jerky involuntary movements, chiefly of the face and extremities. Previously, he had been seeing a *life-coach* to help him with his problems, but due to financial constraints, he stopped. During his physical, the beneficial effects of omega-3 fatty acids, specifically DHA on emotional disorders, were mentioned.[8] That evening he purchased omega-3 fatty acids and has been taking them since.

1. Private Practice-Athens, GA

Physical Examination

Upon physical examination, the patient exhibited the following notable findings: anterior head translation, a left high shoulder and high left ilium. Orthopedic findings include a positive Nachlas and Ely's test, both presenting with pain bilaterally but worse on the right, one-inch lateral to the L4-5 spinous process. The chiropractic exam showed global hypotonicity of the paraspinal musculature. There was global restriction between C4-7 bilaterally with associated tight scalenes on the left. Cervical intersegmental motion was preserved. There was mild hypertonicity of the upper thoracic paraspinal musculature with decreased motion in extension of the T3-4 unit. While standing, the patient flexed his left hip and knee, which exposed a restriction of sacrum in extension on the right.

Radiographs revealed intervertebral osteochondrosis at C5-7 to a moderate degree with mild to moderate uncovertebral arthrosis. Mild spondylosis and mild facet arthrosis are noted at C3-5. In addition, facet arthrosis of C7-T1 is noted from a mild to moderate degree. Posturally, there is flattening of the cervical curve with mild right list. In the lumbar region, there is a right convexity that is associated with moderate intervertebral osteochondrosis at L4-5.

Every aspect of this man's life has been affected by his bipolar disorder. He is no longer able to hold down a job, which affects him on many levels. The lack of income creates additional anxiety, only exacerbating the situation. Also, his sleep has been disturbed. He has trouble going to bed at night; sometimes taking up to 2 hours to fall asleep. The sleep is interrupted but cumulatively he receives 8 hours of sleep each night. At the time of his physical, he was not following his normal exercise routine and his eating had decreased.

Case Management

On his first adjustment, Thompson Technique was performed. Thompson Technique is a protocol to determine the character of subluxations as well as a way to adjust. It utilizes a distractive Thompson drop table to assist with the adjustment. It incorporates Derifeld leg checks to determine primary misalignments.

The legs are initially checked while the patient is prone, knees in full extension. First, cervical involvement or a Cervical Syndrome (CS) must be ruled out. When a short leg is present, the patient is instructed to turn his head to one side. If the legs balance, a CS to the side to which the head is turned is indicated, at which point the doctor palpates the lamina-pedicle junction for a *tender nodule* to determine the segment and which side to adjust. The contact point is at the tender nodule, which is the body side of the rotated vertebra (BR – body right or BL –body left). If no tender nodule is found, Atlas rotation is indicated. If no leveling occurs upon cervical rotation, adjust according to pelvic findings, which are determined based upon flexion of the knees while the patient is prone.

The patient did not return for the first adjustment until 3 weeks after the initial exam. On this day, he filled out the Short Form Health Survey (SF-36), which assesses both mental and physical status. The norm is 50 for physical and mental assessments; on this date, his physical status was a 57 and his mental status was a 16.

A leg check was performed with the patient prone and his right leg was short. Upon left head rotation his legs balanced, (right rotation of the body of C6, right ilium is not moving well posteriorly and inferiorly). Upon palpation of the right side of his neck, a *tender nodule* was present at the level of C6, adjusted using a cervical drop.

After adjusting the cervical segment, his legs no longer balanced once he rotated his head to the left while prone, but he still had a short leg on the right. After placing his leg into flexion, his leg lengthened which correlated with palpatory findings of decreased motion. While the patient was prone, the drop table was used and his right PSIS with stabilizing left ischial tubercle were contacted four times. At this point, his legs balanced both in flexion and extension.

He returned for his second visit two days later. A prone leg check was performed with the patient demonstrating a right short leg again. After left head rotation, his legs balanced and palpation revealed a tender nodule lateral to C2 spinous process (right body rotation of C2, right posterior, inferior ilium). While prone, C2 was adjusted using a drop table. His legs did not balance after left head rotation. His right leg was still short and upon flexion of the knees, his right leg lengthened. The PSIS contact was performed again on the right while using the drop table. His legs balanced after the pelvic adjustment.

At the time of his third adjustment he had a right short leg on extension of the knees and his legs balanced on right head rotation with a tender nodule on the left at the level of C4, (C4 body has rotated left, right posterior, inferior ischium). After adjusting C4 prone using a drop table, his legs no longer balanced when turning his head to the right, but his short leg was still present. Upon flexion of the knee, his right leg became long and his legs balanced after he was adjusted with a right PSIS contact four times.

One week later he described his depression as improving; it is "more lethargic instead of suicidal, deep blues." His right leg balanced when he turned his head to the left on the prone leg check. Palpation revealed a tender nodule at C2 level lateral to the spinous process, (right C2 body rotation, right posterior, inferior ischium). After the drop cervical adjustment, his legs no longer balanced on left rotation. His right leg was still short and flexion of the knee revealed a lengthening of the right leg. After the right PSIS contact, drop table adjustment, his legs balanced.

One week later he reports that he has not had any more anxiety attacks or chorea movements. He was adjusted side-lying, with a cervical drop contacting the right atlas transverse process, (right rotated and lateral wedging of Atlas, right posterior, inferior ischium).

His leg check, after the cervical adjustment, did not balance on right head rotation. His right ilium presented again with the

same pattern of short in knee extension and long in knee flexion. After the PSIS/ischial tubercle drop contact, his legs balanced.

On the following visit, his SF-36 had improved to 61 on the physical portion and mental was a 21. In fact, his mental status exam improvements continued and six months later had risen to 49, physical 56. Also, his neck and low back pain showed significant improvements over the course of care. The Neck Disability Index (NDI) fell from 12% to 0% within 2 months and has maintained this perfect score. The Revised Oswestry Disability Index (RODI) for low back pain decreased from 10% to 4% within 6 months. To date, over eight months later, although he still struggles with bouts of depression and is unable to hold down a job, he has not had an anxiety attack or chorea movements and reports his depressed state continues to improve.

Discussion

Review of the Literature

Upon a review of the chiropractic literature, only one study was found concerning chiropractic care and bipolar disorder. Elster's reports on a patient with trauma induced bipolar and sleep disorders, migraine headaches and seizures, which resolved after chiropractic upper cervical care.[9] Consequently, there is currently no specific chiropractic protocol for treatment of bipolar disorder.

In a review of the medical literature, only one study of a person with bipolar disorder and hemichoreic movements was found. The movement occurred in the left upper and lower extremity in the case study, whereas this patient had a similar but less severe presentation in upper left extremity only[10].

According to a 2007 study in Annals of General Psychiatry, lithium is widely used in all phases of bipolar disorder. Lithium remains the most effective single drug for mood stabilization but has a number of side effects ranging from diarrhea to cognitive dulling. Other commonly prescribed medications include anticonvulsants such as Valproate, antidepressants and even calcium channel blockers.[2,3] Antidepressant usage is still up for debate. In fact, Sachs et al. found that there is little evidence to support the effectiveness of antidepressants in addition to mood stabilizers. This study is the first of its type with a randomized placebo controlled trial with this type of depth.[11] Additionally, to date there have been no randomized controlled trials comparing lithium, antidepressant, antipsychotic and placebo groups.[12] Adjunctive therapy includes counseling and in some treatment-resistant cases, Electroconvulsive Therapy is used.[3,12] Such violent treatment has not been evaluated for effectiveness in improving quality of life.

An alternative or adjunct to medication is the use of omega-3 fatty acids. The benefits of fish oil, DHA and EPA on cognitive function and as a mood stabilizer have been discussed.[13]

There is also a theory that people with bipolar disorder are deficient in omega-3. One study found a link between the rising gap in the omega-6:omega-3 ratio and the increase in bipolar II presentation.[2]

The etiology of bipolar disorder remains unknown but a myriad of theories exist. On a cellular level, a reduced number of glial cells have been noted. While the number of neurons remains normal, there is evidence of an abnormal appearance.[14] In another study, a "decrease in the size and blood volume" of the cerebellum was observed. Metabolically, a link between bipolar disorder and low glucose metabolism and blood flow in the cortex[3] was found. Other theories include heredity or perinatal stress. Also, latent bipolar disorder may be exacerbated by intensely stressful situations. Toxins could be another possible cause. Exposure to Agent Orange has been linked to Vietnam Veterans with BD[3] and other BD sufferers have gone into remission once their mercury amalgam fillings[15] have been removed.

Conclusion

In conclusion, bipolar disorder is a mood disorder that has life-altering effects on its victims in that it does not allow its sufferers to lead a normal life. Although this gentleman still has difficulty working, his quality of life has improved. He no longer endures the chorea movements and his depression has decreased. He has begun exercising on a regular basis as well as seeking counseling. Although this case illustrates the benefits of chiropractic care for one individual, there is a need for additional research to make any further claims regarding the effects of chiropractic on bi-polar disorder, hemichorea or mania.

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