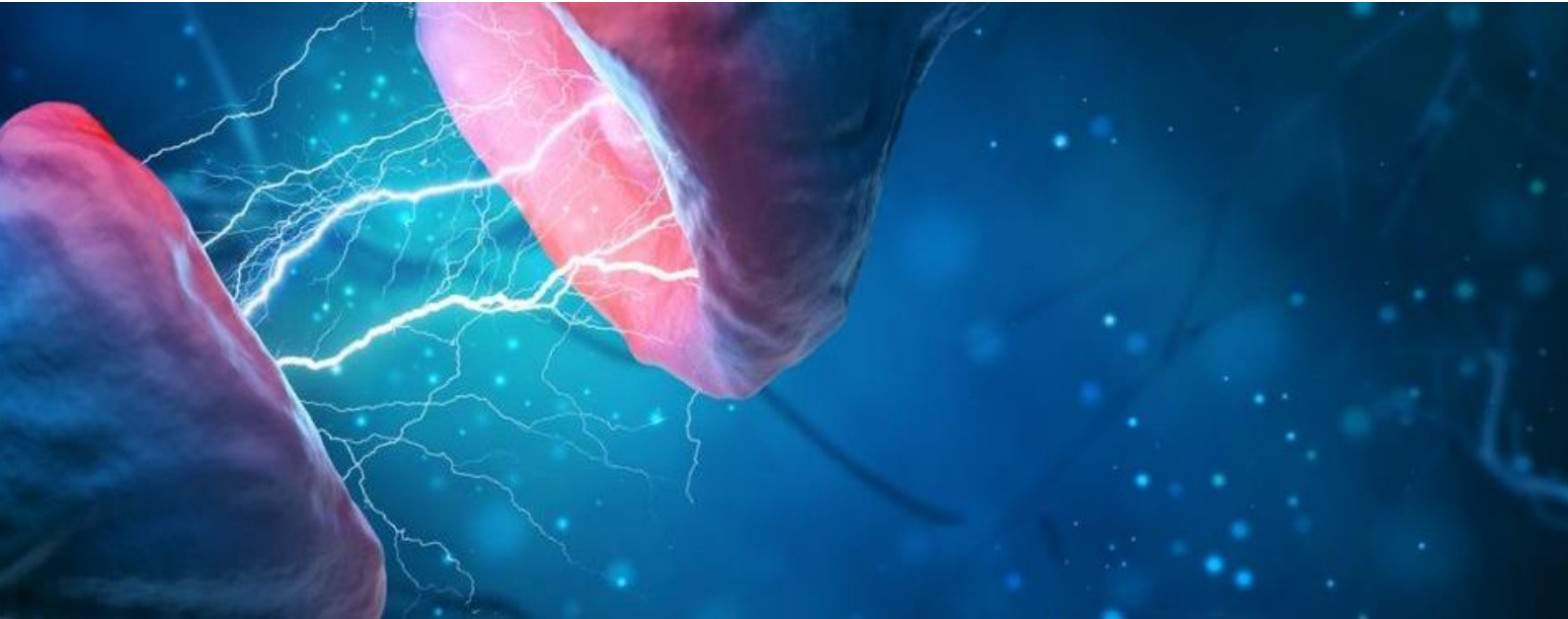


## Case Report Examines Neurological Atrophy



*It has often been said that chiropractors are doctors of the nervous system. The brain and spinal cord are what we care for, and this very brain and spinal cord connect via the peripheral nervous system to every muscle and fibre in the body. So, if this is true, then it logically follows that we should be about more than back and neck care. The effects of a nervous system that is running at its best should result in many other manifestations of improved health. Including neurological factors (where there is no outstanding pathology like a cancer or brain injury). Right?*

Two recent case reports put this idea to the test. The first took place when a 54-year-old male presented to a chiropractic clinic with “non-specific back pain associated with visual disturbances, slight memory loss, and inappropriate cognitive motor control. After physical examination, brain MRI and PET scan, the diagnosis of PCA was recognized. [1]”

PCA is something called posterior cortical atrophy. Essentially, it is the progressive degeneration of the brain. It is a rare neurodegenerative condition that results in difficulty reading, judging distances, and recognising familiar faces and objects. It affects both cognitive functions like thinking, processing and remembering, as well as motor control issues such as balance etc.

There’s not much good news in a diagnosis of PCA. In fact, it may be related to Alzheimer’s Disease and other such neurodegenerative diseases, but we don’t really know about this yet. Research has a long way to go before we know for sure what causes it. In terms of predisposing factors, it may possibly be a result of cortico-basal degeneration (which shrinks certain areas of the brain), Creutzfeldt-Jakob disease, dementia with Lewy bodies, and/or subcortical gliosis (which affects personality, emotion, judgement and social behaviour as neurodegeneration advances).

Life expectancy for a PCA sufferer is about the same as someone with Alzheimer’s Disease but onset is typically a touch earlier, at around age 50-65 versus 65+ for Alzheimer’s. PCA is not well understood and thus the quality of care and treatment from practitioners can be lacking. Obviously, caring for a person with this condition requires traditional medical care. Where it falls under the scope of chiropractic is this; a focus on improving or maintaining neuromuscular function in people with PCA will improve their quality of life, outlook on the future, and general daily functioning.

Upon commencing care, the patient underwent a thorough examination and medical history. Commencement of a course of chiropractic care followed, in which he received chiropractic spinal manipulation (adjustments) and dynamic neuromuscular stabilisation. These were used in conjunction with relatively conservative pharmacological treatments. The case study's authors noted that, *"rehabilitation procedures focused on the neuromuscular features of PCA, in a 42-week period initially, and then another 13-week period. Frequency and duration of treatments were variable throughout these periods. At times, visits were twice a week, others once every two weeks due to conflicting schedules."*

A more stable frequency of care would have been desirable, but the results were significant regardless. They included:

- ~ A 60% increase in patient's perception
- ~ Restored functional neuromuscular pattern
- ~ Improved locomotion, posture, pain control, mood, tolerance to activities of daily living
- ~ Overall satisfactory progress in quality of life
- ~ Additionally, no changes in terms of memory loss progression, visual space orientation, or speech were observed.

We certainly aren't claiming that chiropractic cures PCA. But it is certainly interesting to note that, over such a long period of time, these improvements were noted, and progression of the disease didn't seem remarkable or even noticeable during this time. We can't know why. But an improvement in any of these things would be a big deal if you or someone you loved was suffering from such a condition.

The second case was that of cerebellar atrophy – a condition with many factors in the equation. It may be caused or affected by genetics, chronic alcohol abuse or paraneoplastic disorders (such as an abnormal immune response to a tumor).

In this case, a 38-year-old female sought care for cerebellar atrophy of her left cerebellar lobe. *"She had cognitive difficulties, nystagmus in certain head positions, vertigo, difficulty with fine movement patterns, and balance issues, all of which affected her day-to-day life [2]."* Even with her eyes open, balance was a significant issue. Sensation was normal but strength was significantly reduced.

During the case history and examination, increased reflexed on her left side (hyperreflexia) suggested a motor neuron lesion in the left side of her cerebellum, and falling to the right during a specific test (called a Rhombergs test) suggested there may also be a lesion in the right side of her cerebellum.

The authors also noted that, *"the reduced thumb extensor strength and increased blood pressure on the left side showed an increase in sympathetic tone on the left side. This is associated with decreased pontomedullary reticular formation (PMRF) firing, which in turn is associated with a reduced firing of the ipsilateral cortex and contralateral cerebellum."* In English, that means that her fight or flight mechanisms were firing higher on the left side of her body, while the PMRF and other issues were affecting balance, posture, and movement among other things.

In this particular case, her course of care included (chiropractic) manual therapy as well as neurological exercises targeting the problem areas of the brain and their neurological pathways. Her practitioner focussed on proper breathing technique/mechanics and adjusted her ribs. She was given left-sided complex motions exercises for her upper extremities. She was also adjusted on the left side to stimulate left cerebellum by sending proprioceptive input into left cerebellum.

These all helped, but her fluency and brain fog didn't improve. Hence, the chiropractor introduced more neurologically-based exercises which are outlined in the full case report (referenced below) [2].

Within just three weeks, she saw an improvement in her symptoms and overall condition, which in turn led to a more positive outlook (this, in itself, being an improvement in quality of life). Her second examination showed:

- ~ An improvement in reflexes
- ~ Normal sensation and muscle strength
- ~ Still had a positive Romberg's test with a rightward sway, but even with her eyes closed she didn't lose her balance (previously would close her eyes and fall to the right)
- ~ Thumb extensor strength was still reduced but had improved following treatment
- ~ She reported she had gone dancing and could play her guitar for longer periods of time.

These noteworthy improvements happened within just three weeks. However, this particular case ended abruptly as she "was discouraged from seeking further care when her progress stalled." There are many factors that could contribute to this, as we can't control every aspect of a patient's life once they leave our practice. Nor can we control how often they perform the exercises or whether they are doing them correctly. It is also true that fluctuations and flare-ups happen, and these may have evened out over a longer course of care.

If anything, it drives home the point that more research is needed into chiropractic care and neurodegenerative diseases. How wonderful it would be to see more cases like the two put forward today, in which improvements were noted in complex and often frustrating conditions that limit a person's quality of life so much.

#### References:

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Also available in [The Case for Chiropractic Vol II](#) - hardcover coffee table book.

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## Tips For Using This Article In Practice

These case series are crucial in lifting the veil on what we have witnessed as chiropractors for many years - that chiropractic care can influence more than just pain, and help to create changes in the brain.

Although we know we cannot cure neurodegenerative diseases, a case series has indicated that a long course of chiropractic care can potentially stabilise neurodegenerative changes - this is worth sharing with your practice members and community.

A second case series indicated slight improvements in cerebellar function over 3 weeks, indicating that a long-term, multi-disciplinary approach is best for improving quality of life in patients with neurological conditions. As shown in the article, a positive shift in a patient's outlook is something that can be of great benefit to those with neurodegenerative conditions.

As always, more research is needed to show us exactly how chiropractic helps to accomplish these changes, but it's promising to be able to offer people suffering with these conditions some conservative support in improving quality of life, and as a Chiropractor or CA, you can communicate the information in the article to your practice members.

