



BrainAdvantage MCI Client Case Report

This patient is a 65-year-old female with complaints of inability to focus and memory lapses. She has elevated level of anxiety and auditory processing issues as well.

Assessment

The client was assessed with a neuropsychological screening exam for Mild Cognitive Impairment. The results were within normal limits, although they were toward the lower end of the normal range, particularly on the Fluency and Memory scales.

We tested her using an industry-standard test for attentional issues. On this test, she scored well into the ADHD range.

We next tested her cognitive function, recall, memory and sequencing skills. Out of a possible score of 3175, she scored 770.

The client was assessed using a neuromotor skills exam. Coordination, balance and auditory processing were all in the low range.

The client was assessed for visual insufficiencies. This test shows whether a patient's eyes are tracking and working together. It also assesses visual processing and reading level. The client showed some problems with fixation instability; we recommended that she see a functional optometrist. Her convergence and tracking were normal.

The client was also assessed using HEG Neurofeedback. A 4-minute measurement was taken on both the right and left frontal lobes using HEG to measure blood oxygenation levels. The client showed a marked decrease in oxygen levels on the right versus the left side.

The client had a qEEG Brain Map completed by a BCIA certified psychologist. Absolute Power testing very high activity. Large areas of high activity was also seen in Relative Power Alpha, Power Asymmetry in Delta, Theta, Alpha and Beta. Also readings of Coherence in Delta, Theta, Alpha and Beta showed large areas out of the normal range.

Recommendations/Training

We recommended the client train with BrainAdvantage for 20 sessions. Re-assessments were scheduled following the 10th session and at the end of training.

Her training protocol included:

- Audio Visual Entrainment starting in Beta frequencies targeting left at a target rate of 15-18Hz
- HEG Neurofeedback 3x/week for 20 sessions focusing on increasing the activity on her left side.
- Psychoacoustic sound treatment for vestibular exercise, balance and auditory processing, 30 minutes a day, 5 days a week, for 10 weeks.
- Training for rhythm, coordination, visual and auditory processing 30 minutes, 3x/week
- Cognitive software 3x/week for cognitive, memory, recall and sequencing.

10th Session Reassessment

During the course of her 1st 10 sessions, she was observed to speak very loudly and exhibited an inability to discriminate spoken words in the cognitive training and testing software. Over the course of training, her ability to discriminate spoken words improved and her voice level reduced.

The cognitive impairment screen showed that all scores had improved, particularly her executive function.

Her attentional scores improved as did her attentional issues.

Her performance on the rhythm, coordination, visual and auditory processing tests showed significant improvement from her initial and her "Brain Speed" score rose from 770 to 875.

20th Session Reassessment

Over the 20 sessions the client improved dramatically. She showed no signs of agitation and anxiety at the end of treatment. She no longer spoke in an overly loud voice and could tolerate outside noise and disruption without interfering with concentration. She was able to hear and understand words much more clearly in all tone ranges.

The cognitive screen showed that all scores improved, particularly her Executive Function . Memory and Fluency also improved dramatically from the first assessment.

Her attentional score continued to improve and her scores which indicated that she was not only out of the attentional deficit range, but her attention overall has improved dramatically.

Her performance on the neuromotor skills test shows significant improvement from her initial This illustrates her improved ability to discriminate between sounds and not be distracted by additional stimulus.

Her "Brain Speed" score rose from 875 to 1325.

After the 20 BrainAdvantage sessions had been completed, the client was instructed to get another qEEG Brain Map for comparison. The Brain Map was completed by a BCIA certified psychologist.

Huge differences were seen on Absolute Power testing bringing much of the activity down closer to normal range. Large areas of normal activity in Relative Power Alpha, Power Asymmetry in Delta, Theta, Alpha and Beta were seen. Also readings of Coherence in Delta, Theta, Alpha and Beta showed large areas which were now in the normal range.

Observations

The client has completed 20 sessions. She has improved her performance on most measures with noticeable improvement in her daily activities. She is less likely to be distracted by activities around her during sessions and moderates her voice better. Her anxiety level has declined significantly.

One year after the program, this client says she has seen the benefit increase over the year. She no longer struggles with hearing issues, she is calm and happy.