



BrainAdvantage TBI Client Case Report #1

This patient is a 46 year-old female with 20 years of formal education. She had a history of two head injuries resulting in unconsciousness and reported 3-5 years of occupational or other major exposure to solvents. She came into BrainAdvantage with severe depression, anxiety, and migraine headaches.

She was not able to work because of depression and anxiety. She had uncontrollable crying spells several times a day and was calling or emailing her physician four to five times a day trying to find a remedy. She had gone to two brain training programs (EEG-based) prior to coming to BrainAdvantage with no positive results.

At the time she started this program she was on anti-anxiety medication (Paxil) and lorazepam to help her sleep. She was still experiencing sleeplessness at night.

Assessment

The client was assessed with standardized cognitive tests. The results were within normal limits. With a z score of 3+ being the top .5% of the population and -3 being the bottom .5% of the population, the client scored 1.21 in Memory, 1.81 in Fluency and 1.96 in Executive Function.

The client was then tested with the Brain Speed test to assess for cognitive function, recall, memory and sequencing skills. Out of a possible score of 3175, the client scored 875.

The client was assessed using neuromotor skills testing which measures focus, attention, control of impulsivity, overall coordination and reading/language processing. She was unable to do any of the simple exercises.

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 no problems with eye-tracking and convergence. However visual processing was below average for her age group with a score of 50% correct answers on questions relating to read material.

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 marked decrease in oxygen levels on the left versus the right side.

BrainAdvantage, LLC

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A qEEG Brain Map was performed. Results showed very little activity in the left side of the brain.

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.
- Auditory Retraining for vestibular exercise, balance and auditory processing, 30 minutes a day, 5 days a week for 10 weeks.
- Neuromotor skills training 30 minutes 3x/week for rhythm, coordination, visual and auditory processing
- Cognitive software 3x/week for cognitive, memory, recall and sequencing.

At the end of the first session with this client, she felt remarkably better. The AVE was especially helpful for her anxiety. She leased a unit from us and took it home to use daily. We instructed her to use the Beta training in the morning and use a low frequency setting just before bed for sleep.

During the course of her 1st 10 sessions, the client gradually reduced the anti-anxiety meds. At that time she was still on sleeping meds. She stopped crying after the third session and stopped phoning and emailing her physician.

10th session Reassessment

Cognitive testing showed Memory had stayed the same, however, her Fluency rose as did her Executive Function.

Neuromotor skills training showed significant improvement.

Her Brain Speed score rose from 875 to 925. However, she had not been practicing on Brain Speed during her first 10 sessions, but had been concentrating on cognitive skills. She passed 42 levels of the cognitive software.

Over the next 10 sessions the client was able to reduce her use of lorazepam completely.

20th Session Reassessment

CANS-MCI showed Memory had improved; her Fluency and Executive Function performance had risen dramatically.

Neuromotor skills testing showed significant improvement.

Her Brain Speed score rose from 875 to 1156. She passed 117 levels of the cognitive software and reported she was now able to remember phone numbers and other information without writing them down.

An additional qEEG Brain Map was completed. It showed noticeable improvement. However, the results are more difficult to determine as she was on medication at the time of the first map and coming off lorazepam when the second map was completed.

Final Observations

The client completed 20 sessions. She also had one hypnotherapy session with Dr. Steven Swerdfeger for other issues in her life.

She has made a remarkable recovery. She is happy and active and looking for work. She says if she starts to feel as if she's going back to that old place of fear and anxiety, she can now catch herself and stop the reaction. She says she no longer cries and feels helpless. She has a whole new look on life.