

A CASE OF SEVERE TRAUMATIC BRAIN INJURY WITH POOR INITIAL MRI PROGNOSIS: WHAT CAN WE EXPECT FROM INTENSIVE COGNITIVE REHABILITATION?

Varotsi A¹, Saleptsi E¹, Dimos O¹, Karra N¹, Karatosidi CS¹, Kattami C¹, Papageorgiou SG²

¹Brain Injury Day Treatment Unit, ELEPAP Athens

²2nd Neurological Department, University of Athens, University General Hospital 'Attikon', Athens

Abstract

The current case study demonstrates the unexpected extend of recovery, after systematic and intensive cognitive rehabilitation, of a 46 years old male who sustained a severe traumatic brain injury (TBI), following a car accident. He was transferred comatose to the Emergency Department via ambulance intubated with a Glasgow Coma Scale score of 3/15. Initial CT findings revealed multiple frontal bilateral cerebral haemorrhagic contusions, a large right frontotemporal parietal subarachnoid hemorrhage (SAH), diffuse brain swelling in the right hemisphere and multiple skull fractures. Gradient-recalled-echoT2*-weighted and susceptibility-weighted imaging (SWI) revealed multiple bilateral cerebral microbleeds (CMBs) within the brain parenchyma, suggesting diffuse axonal injury (DAI). On admission to the Brain Injury Day Treatment Unit of ELEPAP Athens, two years after his TBI, he was presented with mental slowness, fatigue, mutism, lack of initiation/apathy, lack of eye contact and exhibited strikingly unexpected behavioral outbursts. The patient was unable to undergo a neuropsychological assessment or to attend intensive rehabilitation program in a group setting due to the aforementioned difficulties. Thus, an individualized cognitive rehabilitation program was provided according to his cognitive deficits as well as functional limitations. Despite the presence of severe axonal injury on early MRI, the patient regained the ability to communicate, his mental stamina was increased, behavioral outbursts were eliminated, he was able to focus on a task or conversation maintaining eye contact and exhibited appropriate emotional regulation. Marked improvements are possible after systematic cognitive rehabilitation, even for chronic TBI patients with a poor prognosis according to the initial MRI findings.