

## EXTENSIVE THERAPEUTIC RECOVERY APPROACHES ON A POLITRAUMA PATIENT WITH COGNITIVE IMPAIRMENT, APHASIA AND SPASTIC TETRAPARESIS AFTER TRAUMATIC BRAIN INJURY



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### Abstract

**Introduction:** Traumatic brain injuries, produced especially by car accidents, are the main cause of an increasing population suffering through cognitive and locomotor impairments which cause permanent dysfunctions and affect drastically their quality of life. In this respect an extensive rehabilitation program consisting in complex therapeutical approaches is mandatory to maximise patients' changes of recovery.

**Materials and methods:** This paper presents an extremely complex clinical case of a patient with reduced state of consciousness, mixed aphasia and spastic tetraplegia, dysphagia, gastrostomy, necessity tracheostomy, neurogenic bladder requiring an indwelling catheter, moderate stiffness in right elbow and knee, all of this due to a severe traumatic brain injury, TBI (fronto – temporoparietal bilateral concussion). She also associated a chest and abdominal injury, rib fracture (left c1-c11), fracture of the left scapula, spinal trauma T8-T9, all caused by a car accident (passenger 23.june.2017). The paper also focussed on the management approaches of the therapeutic recovery of a female patient, 41 years-old, hospitalized in our clinic division for predominant left side tetraparesis, cognitive disorder, communication disorder, complex cachexia. Among medical history problems, we mention Clostridium Difficile enteritis and recurrent urinary infections with Escherichia Coli, Klebsiella, Pseudomonas, treated based on antibiograms. The cerebral CT made in our clinic division revealed 1,8 cm hypodense area in the left frontal lobe, 7 mm bifrontal hygroma. Para-clinical, clinical and functional evaluation of the patient were made using the following evaluation scales: MMS, QOL, Asworth Penn, GOS, Rankin, FAC. This paper work is approved by THEBA Bioethics Committee (No.9181/11.April.2018).

**Results:** Due to a complex neuromuscular program, the patient showed a positive cognitive and motor development. At discharge, the patient had urinary control. Following the sequential evaluations made by thoracic surgeon, the tracheostoma is removed, resulting in a spontaneous breathing (Sat O<sub>2</sub>=96-97% spontaneous). Initially, the patient becomes dysphasic then she can speak articulately and the minimum state of awareness becomes psycho-cognitive status. Deglutition becomes functional both for liquids and food and thus the gastrostoma is removed. Improvement in general well being is noticed and the patient gains weight. Functional: the patient takes active part in the recovery program, showing good tolerance in the wheelchair, can walk with a tall walking frame, wearing a tall brace on the left leg, assisted by a physical therapist.

**Conclusions:** This case is a classical example of a complex post traumatic pathology which benefited from a specific rehabilitation program with good results and high scientific impact.

**Keywords:** rehabilitation, traumatic brain injury, aphasia

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