**P002-e**

**History of traumatic brain injury among prisoners: Differences depending on the severity of the reported trauma**

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Keywords: Severe traumatic brain injury; Prison; Prisoner

**Introduction.**—Two meta-analyses have highlighted a significant prevalence of history of TBI in incarcerated populations [1,2]. A prevalence survey has been conducted at Fleury-Mérogis prison.

**Objective.**—Establish the prevalence of history of TBI and epilepsy in a population of incomers in prison and to explore the links between TBI, epilepsy and criminality.

**Methodology.**—A questionnaire was filled with all incomers at Fleury-Mérogis prison during a period of 3 months.

**Results.**—The prevalence of history of TBI is 32% among adult males. Depending on the TBI severity, different profiles could be described concerning criminal course, perceived health, treatments and psychoactive substances used.

**Conclusion.**—These results should lead to better screening in this population and adapted support according to the severity of the TBI.

**References**


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**P004-e**

**Visual rehabilitation with a vision-trainer instrument for patients with severe acquired brain injury (sABI): Two case reports**

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Keywords: Acquired brain injury; Rehabilitation; Visual trainer

**Introduction.**—The severe impairment of the visual acuity and visual field is one of the perceptual disturbances that most interfere with rehabilitation programs for ABI. Retimax Vision-Trainer is a biofeedback device that has the purpose to improve visual function by means of the detection of a visual evoked potential associated with a sound feedback.

**Observation.**—We evaluated the effectiveness of rehabilitative treatment in two patients with ABI:

- M.U., male, 53 aged, with a right hemisphere cerebral haemorrhage 24 months before, LCF = 8, no neglect, left homonymous hemianopia;
- G.U., female, 24 aged with a cerebellar haemorrhage (9 years before, with a period of unresponsiveness of 7 years), LCF = 6, bilateral visual acuity 2/10 for distance, 6 DW for near, nystagmus, right exotropia, left homonymous hemianopia.

Patients were submitted to the treatment of photostimulation, 10 sessions twice a week. In M.U. we noticed a significant visual field enlargement to the left, documented by Goldmann perimetry. In G.U. it was observed an increase of 1/10 in visual acuity for distance and near, with functional advantages in B A D L.

**Discussion.**—We believe that Retimax Vision-Trainer may be an effective rehabilitative tool, provided there is a satisfactory attentional and cognitive competence.

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**P005-e**

**Voxel-based statistical analysis of brain metabolism in traumatic brain injury patients with growth hormone deficiency after growth hormone replacement treatment**

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Keywords: Traumatic brain injury; Growth hormone; PET; Cognitive function

**Introduction.**—We evaluated the effectiveness of rehabilitative treatment in two patients with ABI:

- M.U., male, 53 aged, with a right hemisphere cerebral haemorrhage 24 months before, LCF = 8, no neglect, left homonymous hemianopia;
- G.U., female, 24 aged with a cerebellar haemorrhage (9 years before, with a period of unresponsiveness of 7 years), LCF = 6, bilateral visual acuity 2/10 for distance, 6 DW for near, nystagmus, right exotropia, left homonymous hemianopia.

Patients were submitted to the treatment of photostimulation, 10 sessions twice a week. In M.U. we noticed a significant visual field enlargement to the left, documented by Goldmann perimetry. In G.U. it was observed an increase of 1/10 in visual acuity for distance and near, with functional advantages in B A D L.

**Discussion.**—We believe that Retimax Vision-Trainer may be an effective rehabilitative tool, provided there is a satisfactory attentional and cognitive competence.

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Purpose.—To investigate the regional cerebral metabolism related with growth hormone deficiency (GHD) after traumatic brain injury (TBI) by F-18 FDG PET images.

Methods.—Ten chronic TBI patients with GHD was treated with GH replacement therapy (GHRT) for 10 months. They underwent brain PET study and neuropsychological assessments before and after GHRT. Statistical analysis of PET images was performed using SPM2 software by a paired t-test and the change of neuropsychological assessments by Wilcoxon test. Additionally, covariance analysis was performed to identify regions in which correlated with increased of cognitive function scores.

Results.—Cerebral glucose metabolism of left superior frontal, right middle frontal, left orbitofrontal, left middle cingulate, right superior temporal and supramarginal cortices area was significantly increased after GHRT compared with before GHRT (P < 0.005). There was a significant improvement in various neuropsychological assessments after GHRT compared with before GHRT (P < 0.05).

Conclusion.—Our findings are suggestive of the brain regions influenced by GHD following TBI. These areas are involved in regulation of intellectual function, execution function and working memory.

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P006-e

Delusions after severe traumatic brain injury: A case study

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Keywords: Severe traumatic brain injury; Delusions; Psychosis; Psychodynamic approach

Introduction.—The eruption of delusions after a severe traumatic brain injury presents a growing interest. International classifications and many publications, which explore neurological and neuropsychological aspects, show that interest. However, the psychological dimension should be explored.

Observation.—A 30-year-old woman, without any psychiatric personal or familial previous history, developed persecutive delusions a year after the injury. MRI shows right temporal cortex and insula lesions on one hand and, left thalamic lesions on the other hand. The neuropsychological testing found attentional disorders and dysexecutive syndrome which impact memory and communication. Psychodynamic approach shows the potential functions of delusions for the patient’s psychic economy.

Discussion.—Delusions may have a particular value for the patient in her conscious and unconscious history. The impact of neurological and neuropsychological dimensions cannot be excluded from the ethnopathogenesis. The mechanisms involved in the eruption and persistence of delusions represent a complex interaction. Also, delusions do not refer to a psychotic organization in this patient.

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P007-e

Pragmatic communication disorders and cognitive functions in traumatic brain injury

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Keywords: Pragmatic communication; Traumatic brain injury; Cognitive impairment

Introduction.—Communication disorders have a significant impact on functional outcome from traumatic brain injury (TBI). Pragmatic communication disability are distinct from aphasia, and affect discourse, lexico-semantic and prosodic components of communication. Communication difficulty in TBI patients seems to correlate with cognitive disabilities, particularly attentive, mnemonic and executive.

Objective.—To explore communication impairments in patients with TBI and evaluate possible relationship with other cognitive functions.

Methods.—Eight male patients, who showed clinical pragmatic disorder, mean age 49.1 years, mean education 10 years, in intensive rehabilitation for severe TBI (GCS < 8), were evaluated in early post-acute phase, at LCF > 5, at PTA resolution, without phasic disorder. All patients underwent neuropsychological assessment. Language was evaluated through BLED-SantaLucia (right brain language battery), consisting of figurative and written metaphors, inferences, requests, humor, prosody.

Results.—Only 5 patients obtained average scores (34.9) below BLED cut-off; 4 were impaired in humor, 3 in figurative, written metaphors and requests. All patients showed deficits in WCST, Towers of London, go-nogo TEA subtest; 4 patients in TMT, FLP fluency, flexibility and WM TEA subtests.

Discussion.—Although the number of patients is still small, this study showed a significant association between attentional and executive impairments and communication disorders.

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P008-e

Major depression and suicidal ideation following traumatic brain injury

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Keywords: Traumatic brain injury; Suicidal ideation; Major depression

Introduction.—Traumatic brain injury (TBI) can result in disabling neuropsychiatric disorders.

People with TBI have an increased risk of suicide, suicide attempts and suicide ideation compared with the general population.

Observations.—The authors report a case of a 59-year-old male, with signs and symptoms of major depression and suicidal ideation, in close relation with TBI.

After a head trauma, he presented with complaint of dysphoric mood (sadness, loss of energy and motivation). His thinking was often negative, frequently with feelings of worthlessness, hopelessness, or helplessness. He also presented with psychomotor agitation, recurrent thoughts of death, and suicidal ideation. A complete mental health evaluation was performed to rule out organic conditions that might imitate a depressive disorder. He was diagnosed with major depression with suicidal ideation based on the history and the mental status examination by psychiatrists. The patient improved due to the integral multidisciplinary rehabilitation treatment planing, with the physiatrist as the leader of the rehabilitation team that included: psychiatric assessment and pharmacological treatment, physical therapy and nursing care.

Discussion.—Physical and rehabilitation medicine within its comprehensive approach has a main role in assessing and managing major depression and suicide prevention in those with history of TBI.

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P009-e

Workplace support is a key factor for job retention after traumatic brain injury

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