

ABSTRACT

Title: Prospective study of Neuropsychiatric problems in patients with Traumatic brain injury being treated in a tertiary care rehabilitation centre

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Objectives:

1. To study the prevalence of neuropsychiatric symptoms in patients with traumatic brain injury (TBI) admitted for rehabilitation using Neuropsychiatric Inventory (NPI).
2. To study the serial change in neuropsychiatric problems in patients with traumatic brain injury at 3 weeks and 6 weeks of rehabilitation.
3. To correlate change in NPI during rehabilitation with motor recovery, functional recovery, cognitive improvement and time since injury.
4. To evaluate caregiver distress due to neuropsychiatric problems and to correlate change in NPI with change in care giver distress.

Methodology: 40 TBI patients , 18-60 years of age , RLA (Ranchos Los Amigos)stage ≥ 4 were assessed using NPI(Neuropsychiatric Inventory) after informed consent , at 0 week, at 3 weeks and 6 weeks of rehabilitation, excluding those with mental retardation, psychiatric illness prior to TBI and those with aphasia.

Motor recovery assessed by Motoricity Index(MI) , functional recovery by Modified Barthels Index(MBI) and modified Clinical Outcome Variability scale (mCOVS), cognitive recovery by RLA and Adenbrookes Cognitive Evaluation III(ACEIII) and care giver distress at admission and at 6 weeks were scored. Correlation of these with change in NPI was studied statistically.

Results: Prevalence of neuropsychiatric problems in TBI was 87.5 %, agitation being the most common (67.5%), followed by Apathy (47.5%) and Depression (45%). Significant change in NPI was noted at 3 weeks ($p<0.001$) and 6 weeks ($p<0.001$) and this correlated significantly with care giver distress (0.001) but not with other scores. In those patients who had agitation, 20% of the care givers had high level of distress.

Conclusion:

1. 87.5 % of patients with TBI admitted for rehabilitation had Neuropsychiatric symptoms. Agitation, apathy and depression were the symptoms that were more common.
2. These symptoms improved serially during rehabilitation. These symptoms improved serially during rehabilitation. The problems continued to occur in 85% of the patients at 6 weeks. However there was a considerable reduction in the frequency and severity with which they occurred. The serial change from initial assessment to final assessment was significant ($p= 0.001$)
3. There was no significant correlation of this change with motor/ functional/cognitive recovery and time since injury.

4. Care giver distress correlated significantly with the NPI scores ($p=0.001$) and the reduction in NPI scores with rehabilitation correlated significantly with reduction in care giver distress ($p=0.001$)
5. Specific psychological and psychiatric interventions should be included in TBI rehabilitation

Key words: Traumatic Brain Injury (TBI), Neuropsychiatric Inventory (NPI)