Introduction: Evaluating clinical and electrophysiological data defines the dynamics of coma, resulted by sever traumatic brain injury. It gives us right curative and diagnostic approach for hemorrhages, swelling, brain stem damage and non-convulsive seizures development.

Methods: during research we used EEG, MRT and CT. Patient neurological status was evaluated by Glasgow Coma Scale. Data dynamics were estimated in 14 day interval.

Results: We had investigated 124 patients with brain traumatic injury afterwards with comatose condition. Patients were divided according to convulsive and non-convulsive seizures. Two clinical groups were allocated: patients who received only conservative treatment (I Group) and patients who underwent neurosurgical intervention (II Group. In latter EEG study was obtained during pre and postoperative period. Differentiation of non-convulsive seizures was made by patterns detected on EEG.

Conclusion: In comatose condition caused by sever traumatic brain injuries; it is important to manage EEG and clinical collates in dynamics, which give us possibility of timely detection of non-convulsive seizures. The latter, significantly determines the progress and outcomes of coma.