Introduction:
Based on examination and treatment of hyperkinetic disorder in patients with UWS and MCS, we supposed that hyperkinesis manifesting the formation of the generator of pathologically enhanced excitation in cerebral cortex, basal ganglia, which subsequently causes the formation of hyperkinesis. Halogen-containing anesthetic sevoflurane had a good clinical effect in patients with prolonged impairment of consciousness.

Methods:
The study included 5 patients with UWS (4 - hypoxia, 1 -encephalitis) and 3 patients with MCS (2 - hypoxia, 1-encephalitis). Hyperkinetic disorder presenting as permanent myoclonus of arms and legs, face. All patients were performed head MRI and EEG (before, during and after anesthesia), CRS-R assessment, 3 patients - [18F]-FGD PET. Initial anesthesia: propofol 2-3 mg / kg, rocuronium bromide (Esmeron) 0, 6 mg/kg, fentanyl 3–5 mg/kg and clonidine (clophelin) 0.5-0.7mg / kg. Maintenance of anesthesia is carried out due to the following scheme: inhalation anesthesia using Sevoflurane (2.0-3.0 vol%, MAC 0.8-0.9). Additionally, during the 2nd - 4th hours of medical anesthesia was prescribed the intravenous injection using Ketamine 1-2 mg/kg/hr. The anesthesia is used during 24 hours. The patients were nurtured by balanced mixtures through nasogastric tube. After 24 hours the patients were gradually transferred to the autonomous breathing. The control clinical and instrumental studies to evaluate the therapy effectiveness (EEG, CRS-R) were performed.

Results:
In 5 patients (2 MCS, 3 UWS) was observed the hyperkinetic disorder regression as decrease of hyperkinesis manifestation, 3 patients didn’t have a significant dynamics.

Conclusion:
The artificially formed “pharmacological dominant” (using sevoflurane and Ketamine) may decrease the activity of pathological system of the brain, which clinically presented as significant decrease of hyperkinesis manifestation in 5 out 8 patients.