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Introduction:  
We accepted a hypothesis that in some patients UWS is a consequence of a pathologic system (PS), that limits the brain functional activity. Identification of a PS allow to predict consciousness recovery. EEG registration under benzodiazepines test (BT) has become the method of PS identifying in UWS patients.

Methods:  
We examined 145 UWS patients (74 - traumatic, 71 -non traumatic). CRS scales assessment, EEG with BT, MRI of brain were performed for all patients. The midazolamum was administered iv 0.04 mg / kg . In 3-4 min after BZD was recorded EEG for 15 min. The test was considered to be positive if against the background of BZD EEG pattern restructuring was observed: the low-amplitude EEG activity was rebuilt with the advent of alpha- and beta- spectrum . In patients with slow-wave activity of theta- and delta- spectrum appeared stable fast forms, and in patients with baseline polymorphic EEG pattern was recorded prevalence of alpha activity and (or) the alpha rhythm. In order to confirm the correlation between the BZD effect and EEG pattern restructuring, Flumazenil was administrated at rate of 0.1 mg every 1 to 2 minutes until the original EEG pattern has been registered again.

Results:  
The BT was true positive (recovery consciousness in 3-12 month later) in 22 traumatic and 19 non traumatic patients. True negative (permanent UWS 12 month later) in 27 traumatic and 43 non traumatic patients. False positive - 11 traumatic, 4 non traumatic. False negative 14 traumatic, 5 non traumatic patients. Sensitivity BT to VS/UWS = 74.6% Sensitivity to MCS = 43.1%

Conclusion:  
Our data confirmed the correctness of hypothesis that a PS limits the activity of the brain in patients in a UWS. We proposed diagnostic method of a PS activity and suppression. Apparently, BZD are the drugs of first stage examination choice in the treatment of UWS patients.

References:  
Caroline Schnakers • Steven Laureys Editors Coma and Disorders of Consciousness Springer 2012.