Our observations seem to confirm the Damasio's model of protoself and core consciousness in patients presenting vegetative coma. According to those 2 models (the consciousness model developped by Damasio, A. and Guerit, J.M for the CEPs in comatose states of wakefulness in which attention and purposeful behavior are still fleeting and unfocused. These include the "comatose vigilant state" in which even the most elementary wakefulness may be lacking. Even background features are missing. Memory begins with states of wakefulness in which attention and purposeful behavior are still fleeting and unfocused. These include the "comatose vigilant state" in which even the most elementary wakefulness may be lacking. Even background features are missing. Memory begins with states of wakefulness in which attention and purposeful behavior are still fleeting and unfocused.


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Fig. 10: During auditory oddball paradigm in case 2: no evidence for brainstem, hypothalamus, S1, S2, insula, retrosplenial parietal cortex. The proposal to a "comatose level" in case 2 replaces in the Damasio and J.M Guerit Model.

Results:

1. EEG: Alpha-theta pattern (alpha-theta coma EEG pattern?)

2. EEG: N1 endogenous components: no repetitive responses

3. EEG: N2 endogenous component: 2 negative latencies at ±273 msec and ±412 msec, +530 msec

4. EEG: N2 exogenous component: present at 258 msec

5. Brainstem, hypothalamus, S1, S2, insula, retrosplenial parietal cortex

Discussion:

The clinical test by P300 auditory oddball paradigm stimulus can be performed by patients in vegetative state without compromising the EPs functions. Coma patients and fMRI suggest that both tests are complementary and helpful for the comprehension of the structures implicated in the cognitive processes that don't need patient active cooperation.

According to those 2 models (Damasio and Guerit), we suggest that clinical Neurophysiology in association with MRI may be a help to discriminate comatose patients and more vegetative comatose patients. In those 2 models, the consciousness model developed by Damasio, A. and Guerit, J.M for the CEPs in comatose state, we suggest that clinical Neurophysiology in association with MRI (fMRI) has a key role to discriminate comatose patients and more specifically in vegetative patients in whom the presence of some consciousness of the present time can be either virtually ruled out or hypothesized with a high degree of certainty.