DIAGNOSING CHRONIC DISORDERS OF CONSCIOUSNESS WITH FMRI

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Objective: Accurate diagnosis of severe chronic disorders of consciousness (DOC) after brain injury is essential for clinical and rehabilitative care and decision-making. Neurobehavioral assessment scales (as the Coma Recovery Scale Revised), which rely on the patients' intellectual and motor ability to communicate, are the most widely used diagnostic tools, since their advantage over standard clinical assessment has been validated. However, with the emergence of modern neuroimaging methods, especially functional MRI, objective physiological markers for assessing the state of consciousness are available in specialized clinics. They are, however not fully integrated in clinical routine, because their benefit has yet to be determined.

Material and methods: 15 patients in apallic syndrome (AS) and 5 patients in minimally conscious state (MCS) after TBI and other etiologies were examined with auditory event related paradigms in fMRI. The findings were compared to the neurobehavioral diagnosis and it was analyzed, if the additional information from fMRI confirmed or questioned the diagnosis.

Results: 3 out of 15 patients in AS showed distinct fMRI activations in event related paradigms. None of the five patients in MCS did so.

Conclusion: Provided that a positive, event related fMRI response in apallic patients changes their diagnosis, it can be assumed, that even well established behavioral assessment scales lack diagnostic certainty. This may be because they depend on the patients' motor abilities as well as on the patients´ cognitive abilities.

Wednesday, November 16, 2011

14:30-16:00 **Hall H**

Free Papers 39: MISCELLANEOUS

Chairpersons: **Mounia Rahmani**, *Morocco*
Callixte Kuate Tegueu, *Cameroon*

14:30 **SEIZURES, EPILEPSY AND HIV INFECTION IN AFRICA**
Callixte Kuate Tegueu, Y. Maiga, *Cameroon*

14:45 **CHARACTERISTICS AND OUTCOME OF TETANUS IN ADOLESCENT AND ADULT PATIENTS ADMITTED TO LAGOS UNIVERSITY TEACHING HOSPITAL BETWEEN 2000 AND 2009**
Idowu Abolaji Bankole, O.O. Ojo, O.O. Oshinaike, N.U. Okubadejo, F.I. Ojini, M.A. Danesi, *Nigeria*

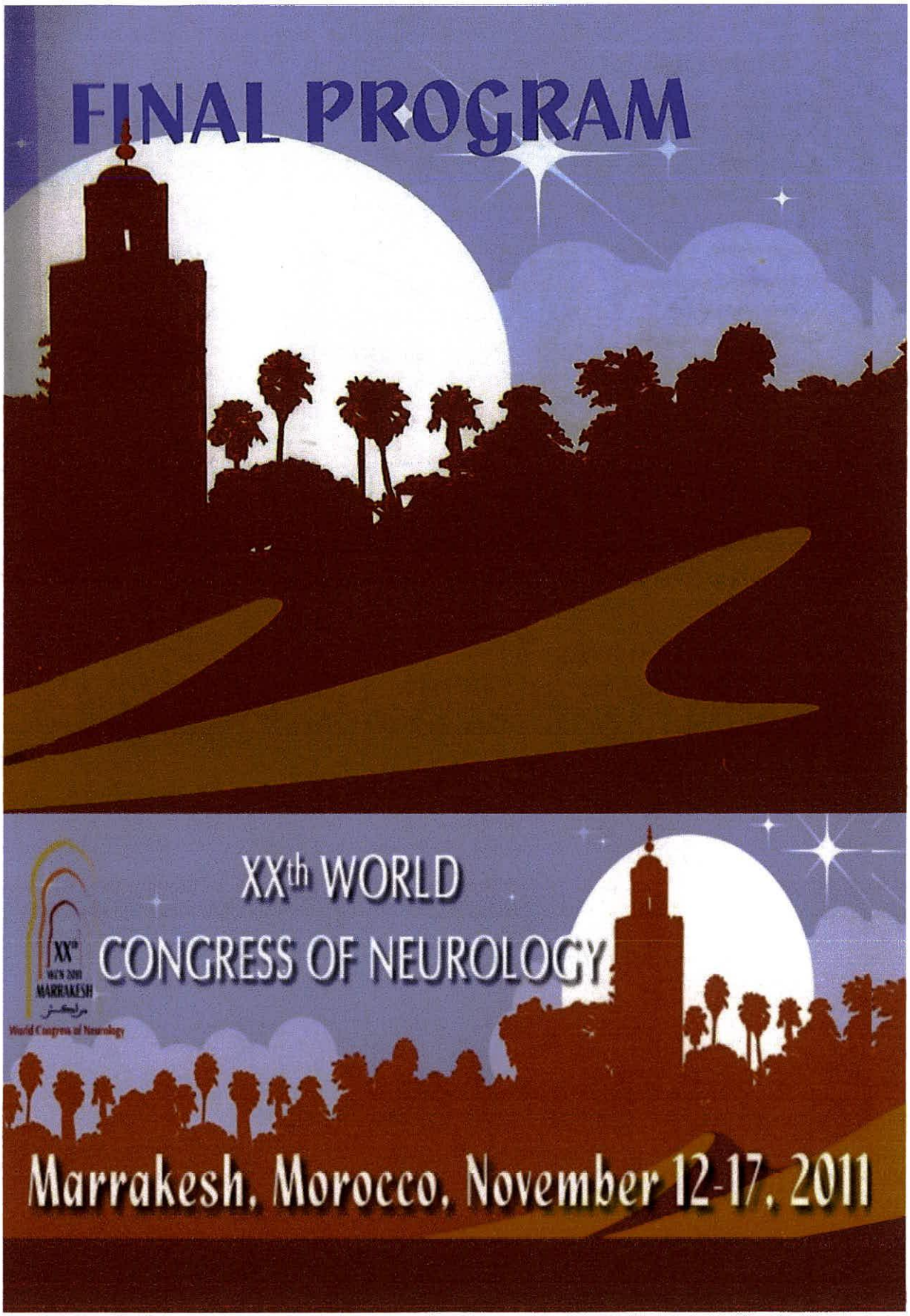
15:00 **EFFECTS OF SHAM-CONTROLLED DOUBLE BLIND TRANSCRANIAL DIRECT CURRENT STIMULATION IN PATIENTS WITH DISORDERS OF CONSCIOUSNESS**
A. Thibaut, D. Ledoux, C. Ropars, **Athena Demertzi**, S. Laureys, M.-A. Bruno, *Belgium*

15:15 **DIAGNOSING CHRONIC DISORDERS OF CONSCIOUSNESS WITH FMRI**
Stefan Golaszewski, M. Seidl, A. Kunz, E. Trinka, F. Gerstenbrand, *Austria*

15:30 **T-HELPER (TH)22 AND TH17 LYMPHOCYTE SUBSETS CHANGE IN THE PERIPHERAL BLOOD (PB) BEFORE AND DURING MS RELAPSES - A LONGITUDINAL STUDY**
Luca Durelli, M. Clerico, B. Ferrero, G. Contessa, S. De Mercanti, A. Di Liberto, A. Giai Via, S. Rolla, V. Bardina, A. Cucci, A. Uccelli, M. Zaffaroni, P. Cavalla, L. Rinaldi, C. Comi, R. Cavallo, L. Sosso, P. Quaglino, F. Novelli, *Italy*

15:45 DISCUSSION

16:00 *Coffee Break*


FINAL PROGRAM
XXth WORLD
CONGRESS OF NEUROLOGY
Marrakesh, Morocco, November 12-17, 2011