**X PMT meeting on the EADC-ADNI Harmonization of Protocols for Hippocampal Segmentation**

Wednesday, June 6, 2012

Participants:

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| Giovanni B. Frisoni | (GBF) | – IRCCS S. Giovanni di Dio - Fatebenefratelli, BS, Italy |
| Marina Boccardi | (MB) | – IRCCS S. Giovanni di Dio - Fatebenefratelli, BS, Italy |
| Martina Bocchetta | (MBocch) | – IRCCS S. Giovanni di Dio - Fatebenefratelli, BS, Italy |
| Alberto Redolfi | (AR) | – IRCCS S. Giovanni di Dio - Fatebenefratelli, BS, Italy |
| Simon Duchesne | (SD) | – Laval University, Québec City, Canada |
| Clifford R. Jack | (CRJ) | – Mayo Clinic, Rochester, MN, USA |

BENCHMARK SEGMENTATION UPDATE

MB updated the PMT about the completion by the 5 Master Tracers of the benchmark sample of 40 hippocampi (20 at 1.5T and 20 at 3T) each. All tracings have been checked and Master Tracers were asked to correct the reported inconsistencies. Volumetric inter-rater ICCs were high (>0.94), thus the results were supposed to be the best reasonable agreement among Masters.
SD reported that there's non way to develop probabilistic maps (only 5 Masters), thus the possibilities are to develop geometric averages of segmentations or to consider % of overlapping area (but we need to define overlapping of what: the minimal area traced by all 5 Masters, or the entire area traced by at least one Master?).
CRJ suggested to go back to Masters, showing the overlapping results and offer them the possibility to change their segmentation when there's not an agreement.
SD and Nicolas Robitaille will develop overlapping figures with the same scale for all slices and try to create unique labels with all the 5 Master segmentation for each MR image. These will be used during a TC with all 5 Master Tracers to discuss about disagreements and to edit most incoherent points.

VALIDATION vs PATHOLOGY

CRJ suggested to consider separately the available samples from Mayo Clinic, DeLeon and Apostolova due to local policy about data sharing and differences among samples (field strength, and histology). Thus the possibilities are that only one tracer (Gregory Preboske) will trace all the three samples or that different local tracers will do the work.
We will collect details of all samples (references for outcome measures, definition of Braak's stages and quantification of histological measure).

VISUALIZATION OF HIPPOCAMPAL SEGMENTATION WITH AUGMENTED REALITY

AR explained that in the context of Neugrid project they are going to develop a dissemination tool based on augmented reality to show comparisons between hippocampal manual tracings and automated algorithms and to localize AD atrophy. The request is to use benchmark or training segmentations from the Harmonized Protocol Project.
SD asked to be kept informed about all steps due to the possible overlapping with his Canadian founded project.


The next TC is scheduled for Tuesday July, 3 2012 from 4 pm to 5 pm CET.