

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

Wednesday, February 29, 2012

Participants:

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
Clifford R. Jack (CJ)	– Mayo Clinic, Rochester, MN, USA
Simon Duchesne (SD)	– Laval University, Québec City, Canada
Lennart Thurfjell (LT)	– GE

Images orientation check:

GBF described the basic project method for the definition of the Harmonized Protocol. The Delphi panel took all decisions based not only on evidence, but also on experience. The empirical data provided on SUs were taken on AC-PC oriented images and definitions related on both external and internal landmarks.

Delphi panel decided on which SUs make up Harmonized Hippocampus and this definition included only internal landmarks, thus are be affected by orientation. Delphi panel also decided (after 4 voting rounds) that the best segmentation was on images oriented along the mean angle of the left and right long hippocampal axes. The choice of the hippocampal axis is an early decision which came from the first Delphi round.

We collected further empirical evidence on reliability from 3 Master tracers. Total hippocampal volume on ACPC was equal to the total hippocampal volume on hippo axis.

SD presented data computed for spatial overlap coefficients.

The conclusion was that, comparing global volumes, there was no difference between orientations and inter-rater reliability was $>.94$, but when comparing the overlap area, ACPC was better than hippocampal axis (reliability was $=.85$)

The whole group agreed on preparing a further Delphi round, summarizing steps and including additional analysis. The focus will be on the fact that evidence (used by panelist to decide) were taken from SUs on ACPC. Panelists will be asked to make a balance between their possible *a priori* believes (Harmonized Protocol on hippocampal axis) and the possible need to re-do the whole SUs analysis on hippocampal axis, to switch the Harmonized orientation from ACPC to hippocampal axis.

For the additional analysis, it is requested that Liana Apostolova completes the whole sample of tracings and Rossana Ganzola will be asked whether she can trace the sample of ACPC+hippo axis in a reasonable time. Nicolas Robitaille will prepare a video, comparing MRI+tracings on different orientations.

MB communicated that Paper on Operazionalization will be submitted to Alzheimer's & Dementia soon.

The next TC is scheduled for March, 21 2012 from 4 pm to 5 pm CET.