Supplementary Table 3. Characteristics of DTA studies awaiting classification

|  |
| --- |
| **Caminiti 2016 (Abstract)** |
| **Patient sampling** | Not reported |
| **Patient characteristics and settings** | 99 MCI participants, mean age 70.4±7.3 years, recruited from a number of centers (a multicenter study) |
| **Index test** | 18F-FDG PET scan; metric: optimized SPM method. Each patient SPM-t map was classified by imaging experts, blind to clinical information, as negative, AD-like, DLB-like or FTD-like patterns.  |
| **Target condition** | Conversion to all dementia (Alzheimer’s dementia or DLB or FTD) |
| **Flow and timing** | Duration of follow-up: 20.2±10 monthsSensitivity=100%; specificity=75%; 83 (84%) MCI participants had pathological 18F-FDG PET scan (test positive); 46/83 (55%) converted to dementia. 16 (16%) MCI participants had normal 18F-FDG PET scan (negative test) and none of them converted to dementia.TR=46; FP=37; TN=16; FN=0 (Calculated in RevMan5) |
| **Notes**Dr Perani email on 27/7/2017: Full paper has not been published yet. It has been submitted to NeuroImage Clinical  |
|  |
| **Caroli 2015 (Abstract)** |
| **Patient sampling** | Not reported |
| **Patient characteristics and settings** | 188 MCI patients were clinically followed for at least 1 year to detect progression to AD dementia.At follow-up: 89 MCI patients progressed to AD and 99 remained stable or improved. |
| **Index test** | 18F-FDG PET scan |
| **Target condition** | Target condition: conversion from MCI to AD dementiaReference standard: not reported |
| **Flow and timing** | Duration of follow-up: ˃1 yearData for creating 2X2 table not available.  |
| **Notes**Additional information (e.g., whether there is a full paper published, etc.) and missing data were requested from the author but no further information was available at the time this review was prepared. Dr Galluzzi (email on 21/4/16) wrote *“the full paper is under revision”.* |
|  |
| **Chen 2013 (Abstract)** |
| **Patient sampling** | Study design: nested case-control design; retrospective analysis of longitudinal data. We only consider the data for 18F-FDG PET scan.Exclusion criteria: not reported |
| **Patient characteristics and settings** | 139 MCI ADNI participants diagnosed by MCI.Gender: women, men (not reported)Age: MCI converters mean 75.9 years; non-MCI converters mean 75.4 yearsApoE ε4 carrier: not reportedMMSE: not reportedEducation: not reportedSources of referral: not reportedSetting: multicenterNote: two groups did not differ in mean age, education and gender ratio. |
| **Index test** | 18F-FDG PET scanThreshold: not reportedHypermetabolic convergence index (HCI) used to distinguish converters from non-converters |
| **Target condition** | Target condition: conversion from MCI to Alzheimer’s disease dementiaReference standard: not reported |
| **Flow and timing** | Duration of follow-up: 3 yearsNumber included in analysis (N=139)At follow-up: 78 MCI-AD (disease positive); 61 MCI-MCI (disease negative)Conversion from MCI to AD dementiaSensitivity=80%; specificity=64%TP=62; FP=22; FN=16; TN=39; PPV=74%; NPV=71% (Calculated in RevMan5) |
| **Notes**The author contacted asking whether there is a full paper published but no further information was available at the time this review was prepared  |
|  |
| **Lee 2015 (Abstract)** |
| **Patient sampling** | Study design**:** nested case-control study; no further informationExclusion criteria: not reported |
| **Patient characteristics and settings** | 59 MCI participants: 22 MCI-AD and 35 MCI-MCIGender: not reportedAge: MCI converters ±years; non-MCI converters ±yearsApoE ε4 carrier: total sample; MCI converters ; non-MCI convertersMMSE: total sample 26.9±1.6; MCI converters 26.2±1.5; non-MCI converters 27.9±1.3Education: not reportedSources of referral: not reportedSetting: not reported |
| **Index test** | 18F-FDG PET scanThreshold: not reported |
| **Target condition** | Target condition: conversion from MCI to AD dementiaReference standard: not reported |
| **Flow and timing** | Duration of follow-up: 2 yearsConversion from MCI to AD dementiaNumber included in analysis (N=59)At follow-up: 22 MCI-AD (disease positive); 37 MCI-MCI (disease negative)Sensitivity=63%; specificity=66% when using automatic computer-assisted systemTP=14; FP=13; FN=8; TN=24 (Calculated in RevMan5)Sensitivity=64%; specificity=70% when using visual evaluation ratingTP=14; FP=11; FN=8; TN=26 (Calculated in RevMan5) |
| **Notes**Additional information (e.g., whether there is a full paper published, etc.) and missing data were requested from the author but no further information was available at the time this review was prepared. |

MCI, mild cognitive impairment; AD, Alzheimer’s disease; FTD, frontotemporal dementia; DLB, dementia with Lewy bodies; 18F-FDG PET, Fluorine-18-2-fluoro-2-deoxy-D-glucose positron emission tomography; ApoE, **apolipoprotein E;** MMSE, Mini-Mental State Examination; TP, true positive; FP, false positive; FN, false negative; TN, true negative; PPV, positive predictive value; NPV, negative predictive value; RevMan5, Review Manager Software

**REFERENCES**

Caminiti S, Ballarini T, Presotto L, et al. Comparison of molecular biomarkers for the prediction of conversion to dementia in a large multicentric MCI cohort. *J Alzheimers Dis* 2016; **53:** S18–­19.

Caroli A, Galluzzi S, Ferrari C, et al. Alzheimer’s disease core biomarkers and prediction of dementia in MCI: The effect of age at onset. *Alzheimers Dement* 2015; **11:** 140–42

Chen K, Stonnington C, Ayutyanont N, et al. Baseline FDG-PET and volumetric MRI predicts Alzheimer’s disease conversion from mild cognitive impairment: An ADNI study. *Alzheimers Dement* 2013; **9:** 8444.

Lee JY, Sohn BK, Kim YK, Lee DY. Prediction of conversion to Alzheimer’s disease in mild cognitive impairment: FDG PET analysis by an automatic computer-assisted system in comparison to visual evaluation rating. *Alzheimers Dement* 2014; **10:** 406.