Journal of Alzheimer's Disease 32 (2012) 1–3
IOS Press

Supplementary Data

Increased Basal Forebrain Metabolism in Mild Cognitive Impairment: An Evidence for Brain Reserve in Incipient Dementia

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Handling Associate Editor: Henryk Barthel

Accepted 29 June 2012

Supplementary Table 1
Brain areas of positive correlation between the regional uptake and the left medial basal forebrain uptake in MCI patients

Region	Side	CE	Coordinates (mm)			t_{11}
			x	*y*	*z*	
Inferior orbitofrontal gyrus	**R**	**384**	**46**	**44**	**–6**	**8.23**
Middle orbitofrontal gyrus			40	54	–10	7.88
Superior orbitofrontal gyrus			22	64	–8	4.50
Superior temporal gyrus	**L**	**157**	**–64**	**–18**	**6**	**6.57**
Superior temporal gyrus			–64	–12	12	5.75
Superior temporal pole	**R**	**56**	**54**	**18**	**–8**	**5.87**
Middle orbitofrontal gyrus	**L**	**169**	**–46**	**52**	**–2**	**5.81**
Middle orbitofrontal gyrus			–34	58	–4	5.23
Superior temporal gyrus	**R**	**411**	**66**	**–12**	**0**	**5.58**
Middle temporal gyrus			64	–8	–10	5.50
Superior temporal gyrus			68	–22	4	5.14
Superior temporal pole	**L**	**94**	**–48**	**14**	**–20**	**5.23**
Middle temporal gyrus			–56	10	–22	4.88
Caudate nucleus	**R**	**84**	**18**	**20**	**16**	**4.91**
Frontal white matter			8	20	14	4.69

CE, cluster extension; MCI, mild cognitive impairment; R/L, right/left; The height threshold is set at $p < 0.001$, uncorrected for multiple comparisons. The cluster extension is set at ≥ 50 voxels. Coordinates in bold delineate a cluster and the peak *t*-value (11 degrees of freedom) within the cluster. Subsequent non-bold coordinates identify further peaks within the same cluster that meet the significance level.

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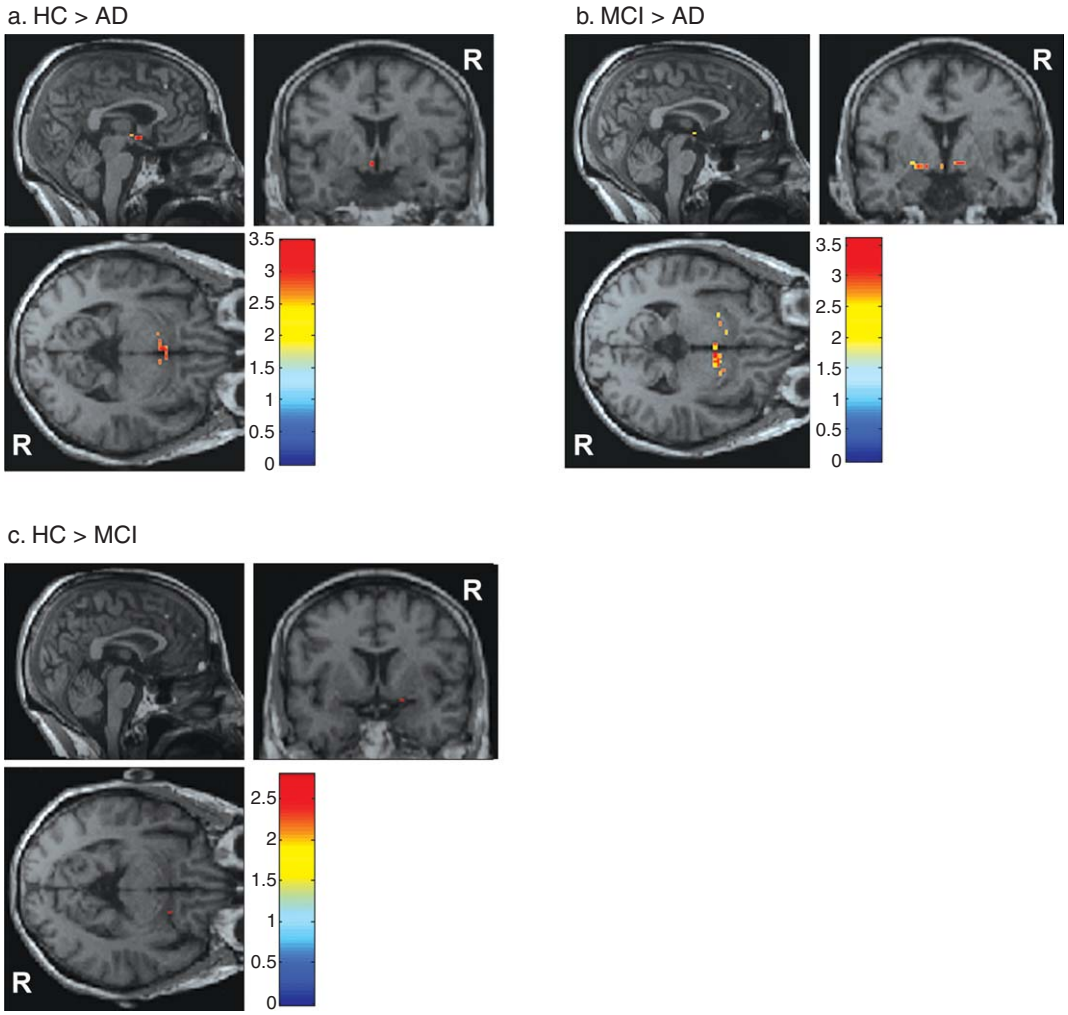
ISSN 1387-2877/12/$27.50

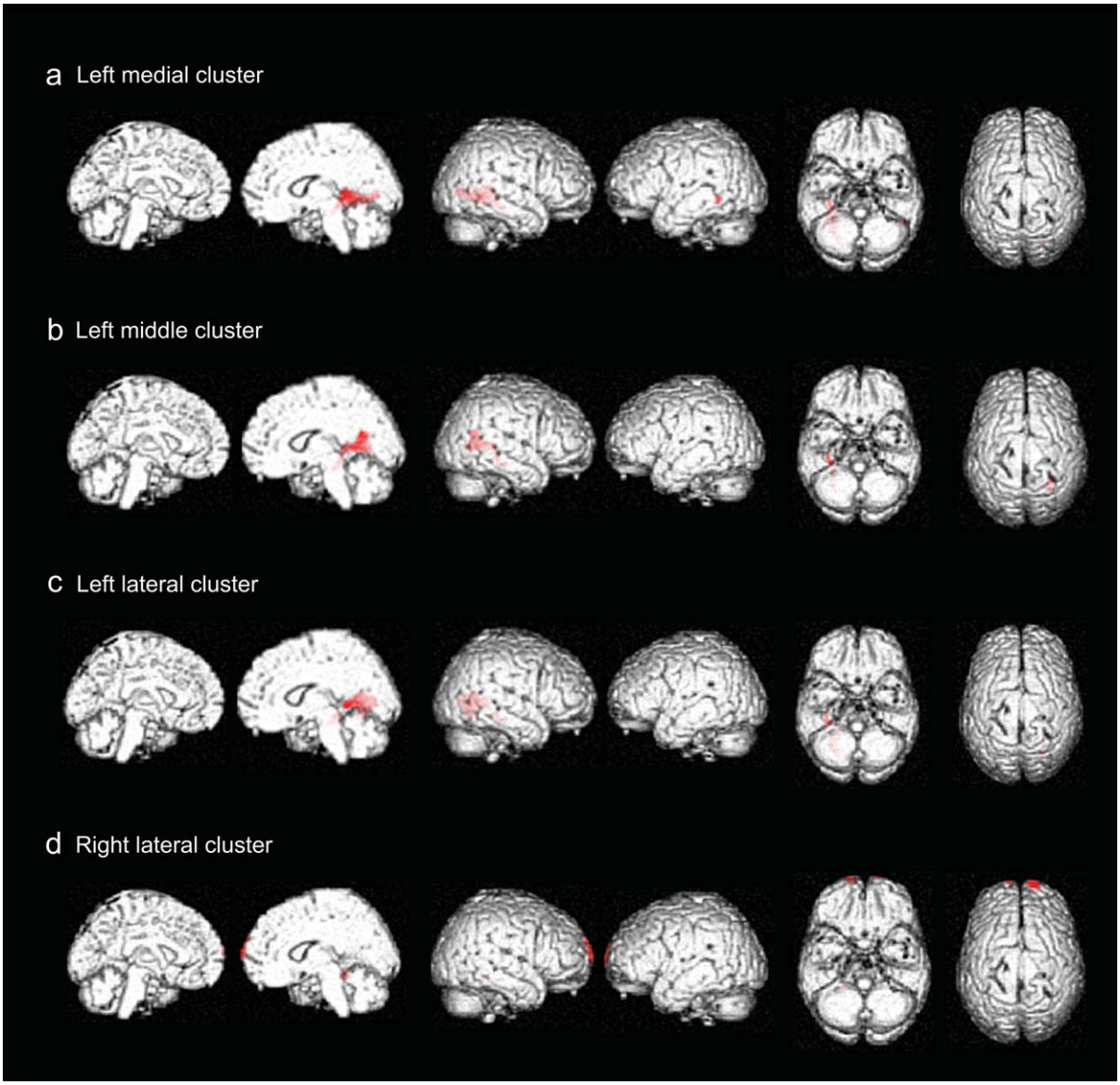


Supplementary Figure 1. Comparison of volumetry in the basal forebrain among the groups. The Alzheimer's disease (AD) group shows more volume decrease in the basal forebrain compared to the healthy control (HC) and the mild cognitive impairment (MCI) group (a, b), and the MCI group shows decrease in a focal area of the basal forebrain compared to the HC group (c). Voxels are shown passing the height threshold $p < 0.01$, uncorrected for multiple comparisons. The cluster extension is set at ≥30 voxels. R means right side.

Supplementary Table 2
Brain areas of positive correlation between the regional uptake and the left medial basal forebrain uptake in AD patients

Region	Side	CE	Coordinates (mm)			t_{18}
			x	*y*	*z*	
Fusiform gyrus	**R**	**763**	**32**	**–50**	**–2**	**5.79**
Precuneus			26	–44	4	5.39
Calcarine gyrus			24	–76	4	4.77
Inferior temporal gyrus	**L**	**67**	**–46**	**–50**	**–6**	**4.61**
Lingual gyrus			–38	–46	–2	3.78

CE, cluster extension; MCI, mild cognitive impairment; R/L, right/left; The height threshold is set at $p < 0.001$, uncorrected for multiple comparisons. The cluster extension is set at ≥50 voxels. Coordinates in bold delineate a cluster and the peak *t*-value (18 degrees of freedom) within the cluster. Subsequent non-bold coordinates identify further peaks within the same cluster that meet the significance level.



Supplementary Figure 2. Maps of positive correlation between [18F]-fluorodeoxyglucose uptake at each cluster of the basal forebrain and uptake at other voxels on a whole brain basis in Alzheimer's disease. The uptake at the left medial, middle, and lateral clusters show correlation with the right occipital and inferior temporal cortices (a–c), while that in the right lateral cluster show mainly with the bilateral anterior frontal cortices (d). Voxels are shown passing the height threshold $p < 0.001$, without correction for multiple comparisons. The cluster extension is set at $\geq$50 voxels.