

Articles on imaging biomarkers for Alzheimer's disease

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1 Separated by acquisition modality

Although a very important source of knowledge about the pathophysiology of the disease, the brain imaging modalities have limited diagnostic utility because their findings are not specific to AD and they are not sufficiently sensitive to detect mild or preclinical disease stages. This is important not only to clinical practice but also to the development of new therapies: researchers seeking disease-modifying agents are aware that an efficient drug should ideally be started before patients present with overt dementia but, in order to choose who will benefit from such therapy, we need accurate diagnostic tools.

1.1 Anatomical MRI (T1)

[98]

1.1.1 Voxel-based Morphometry (VBM)

[15][56][45][18][32]

1.1.2 Tensor and Deformation-based Morphometry (TBM and DBM)

[42][58][51][76][40][40][23][9][32]

1.1.3 Longitudinal TBM

[41]

1.2 Functional MRI

1.2.1 Task-related functional MRI (taskfMRI)

[92][22][81][72][12][14][41][99][60][47][38][62][68][82]

1.2.2 Resting-state functional MRI (rsfMRI)

[93][83][77][96][50][60][72][39][2][8][37]

1.2.3 Functional connectivity

[21][62]

1.2.4 rsfMRI and taskfMRI

[33]

1.3 Diffusion MRI (DWI)

[36][59][10][26][19]

1.4 Tomography (PET/SPECT)

1.4.1 PET

[63][34][57][55][20][73][48][80][65][27][78][61][79][43][17][53][67][52]

1.4.2 SPECT

[66][44]

1.5 Electroencephalogram (EEG)

[86][46][7][2]

1.6 Magnetoencephalogram (MEG)

[28][71][54][70][87][95][69][85][35][29]

1.7 Multimodal analyses

1.7.1 T1 and DTI

[101][100][88][91][64]

1.7.2 T1 and fMRI

[39]

1.7.3 T1 and PET

[97][65]

1.7.4 DTI and rsfMRI

[90]

1.7.5 MEG and EEG

[6]

1.7.6 EEG and PET

[89][25]

1.8 Genetic studies

[4]

1.9 Clinical studies and reports

[1][49][13][74][5][84][94][11][3]

1.10 Meta-analyses

[31][16, 30, 100][24]

[75] is a recent meta-analysis which found that hypometabolism/hypoperfusion of the inferior parietal lobules and precuneus is the most consistent neurofunctional finding in AD in comparison with healthy elderly subjects.

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