Table 3

Classification results obtained with DTI-based features using a linear SVM classifier when differentiating CN (n=46) from pMCI (n=24) subjects. The balanced accuracy, sensitivity and specificity were averaged over 250 runs for no sampling classifications, and 10*250 runs for undersampling classifications. AUC: area under the receiver operating characteristic (ROC) curve.

Task	Feature	AUC	Balanced Accuracy	Sensitivity	Specificity
46 CN	WM-FA	0.60	0.58	0.85	0.32
	GM-FA	0.77	0.65	0.87	0.43
	WM+GM- FA	0.78	0.66	0.88	0.44
Vs	WM-MD	0.56	0.65	0.84	0.47
24 pMCI	GM-MD	0.55	0.61	0.80	0.42
	WM+GM- MD	0.54	0.61	0.83	0.4
24 CN	WM-FA	0.59	0.61	0.70	0.52
	GM-FA	0.70	0.66	0.71	0.60
	WM+GM- FA	0.76	0.69	0.75	0.63
Vs	WM-MD	0.33	0.63	0.88	0.37
24 pMCI	GM-MD	0.59	0.65	0.72	0.58
	WM+GM- MD	0.62	0.66	0.77	0.55

Table 4

Classification results obtained with DTI-based features using a linear SVM classifier when differentiating sMCI (n=54) from pMCI (n=24) subjects. The balanced accuracy, sensitivity and specificity were averaged over 250 runs for no sampling classifications, and 10*250 runs for undersampling classifications. AUC: area under the receiver operating characteristic (ROC) curve.

Task	Feature	AUC	Balanced Accuracy	Sensitivity	Specificity
54 sMCI	WM-FA	0.49	0.48	0.32	0.64
	GM-FA	0.48	0.52	0.25	0.78
	WM+GM- FA	0.49	0.52	0.22	0.81
Vs	WM-MD	0.49	0.49	0.66	0.32
24 pMCI	GM-MD	0.44	0.51	0.52	0.50
	WM+GM- MD	0.45	0.50	0.65	0.35
24 sMCI	WM-FA	0.50	0.47	0.47	0.47
	GM-FA	0.50	0.57	0.54	0.59
	WM+GM- FA	0.48	0.56	0.56	0.56
Vs	WM-MD	0.54	0.48	0.56	0.41
24 pMCI	GM-MD	0.45	0.53	0.41	0.65
	WM+GM- MD	0.44	0.54	0.43	0.65

P2-452 TAU ACCUMULATION IN RHINAL CORTEX IS ASSOCIATED WITH MEMORY PERFORMANCE IN NONDEMENTED YOUNG ADULTS WITH AUTOSOMAL DOMINANT ALZHEIMER'S DISEASE

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Background: We previously reported that asymptomatic Presenilin-1 (PSEN1) mutation carriers have elevated tau levels in entorhinal cortex in their late 30s, an average of six years before their estimated clinical onset (Quiroz et al., 2018). Here we build on these results using an anatomically-defined rhinal cortex region, hypothesized to be the initial site of cortical tau deposition in non-demented individuals genetically-determined to develop Alzheimer's disease in their mid-forties (median age 44 ± 2 years). **Methods:** Forty non-demented family members (age range: 28-45) from the Colombian kindred (12 cognitively unimpaired and 4 symptomatic PSEN1 carriers, 24 non-carriers) underwent structural MRI, PiB-PET, Flortaucipir (FTP)-PET, and cognitive testing (CERAD Battery). FTP SUVRs were sampled onto the cortical surface, and mean SUVRs were computed for FreeSurfer-defined entorhinal (EC) and inferior temporal (IT) cortical ROIs, as well as a surface curvature-derived rhinal cortex (RC) region surrounding the anterior collateral sulcus within a 6mm radius. Spearman correlations were used to characterize the relationship between tau PET, amyloid PET, age, and cognitive measures. **Results:** Elevated levels of RC and EC tau were seen in 9 of 11 amyloid-positive carriers, as young as 36 years of age, approximately 8 years prior to symptom onset. In the whole sample, RC tau was significantly associated with MMSE (r=-.317, p=.046) whereas EC and IT tau were not (p=.066, .225, respectively). RC and IT tau were significantly associated with age (p<.03), while EC tau was not (p=.194). RC, EC and IT tau were significantly associated with mean cortical PiB DVRs (p<.002). Further, higher levels of EC, RC and IT tau were associated with worse performance on memory measures (p<.05). RC tau had a slightly stronger association with performance on the CERAD Constructional Praxis Recall, compared to EC and IT tau (EC: r=-.72, p=0.002; IT: -.51, p=.05; and RC: r= -.75, p=.001). **Conclusions:** These observations suggest that the rhinal cortex, defined on the basis of individual sulcal anatomy, may be useful for detecting early signs of tau pathology and memory loss. Longitudinal analysis currently underway will help to elucidate the progression of RC tau and its contribution to cognitive decline.

P2-453 DIAGNOSTIC ACCURACY OF VARIOUS WHITE MATTER HYPERINTENSITY (WMH) INDEXES AND DTI MEASURES FOR DIAGNOSING ALZHEIMER'S DEMENTIA

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