# Alzheimer's Disease Research Center (ADRC)

**Newsletter 15**

We are pleased to share a research project by Adam Mecca, MD, PhD. He is an Assistant Professor of Psychiatry, Associate Director of the Alzheimer's Disease Research Unit (ADRU), Associate Director of the Clinical Core of the Yale Alzheimer's Research Center (ADRC), and an ADRC Research Scholar.

## Dementia Care

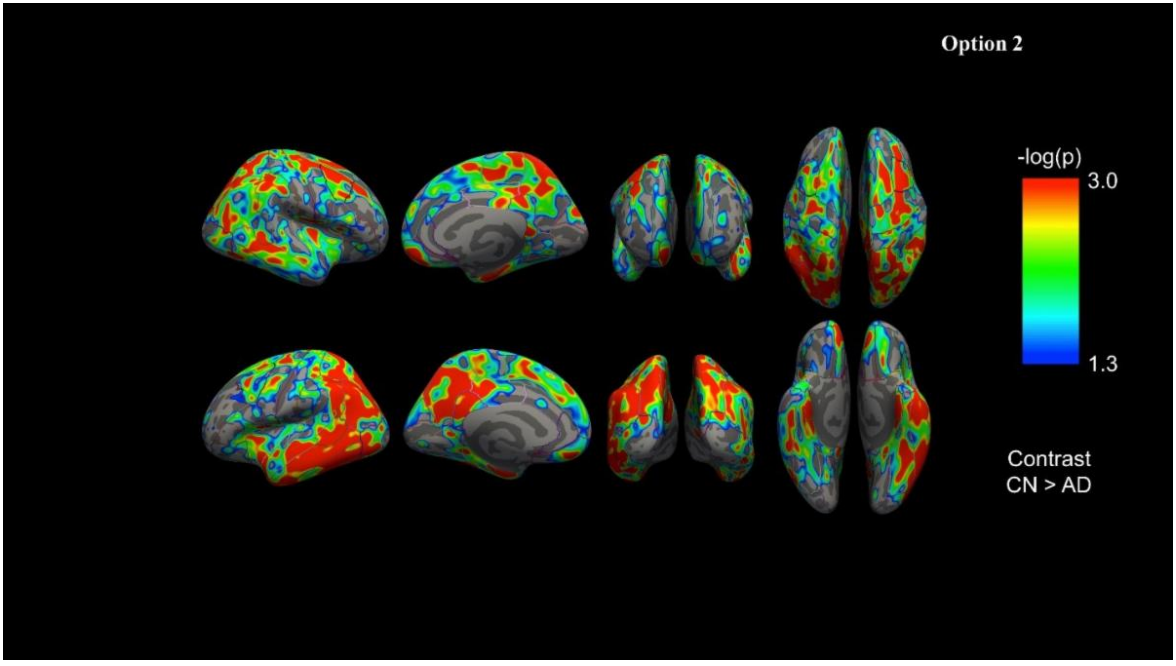

Figure 1: This brain map shows the areas of the greatest synaptic loss due to Alzheimer's disease in red.

To expand the basic understanding of Alzheimer's disease pathophysiology, Dr. Adam Mecca and his collaborators at the Yale Alzheimer's Disease Research Unit and Yale PET center have been using a novel method of Positron Emission Tomography (PET) imaging to characterize loss of brain synapses (connections). Expanding on their studies with this method, Dr. Mecca and his collaborators have been able to measure widespread decreases in synaptic density in people with Alzheimer's disease. A better understanding of synapse changes will provide valuable insights into the Alzheimer's disease process, hopefully leading to the development of both new treatments and therapeutic biomarkers. This work was recently published in the journal Alzheimer's & Dementia (Mecca et al., 2020).

Mecca, A.P., Chen, M.K., O'Dell, R.S., Naganawa, M., Toyonaga, T., Godek, T.A., Harris, J.E., Bartlett, H.H., Zhao, W., Nabulsi, N.B., Wyk, B.C.V., Varma, P., Arnsten, A.F.T., Huang, Y., Carson, R.E., van Dyck, C.H., 2020. In vivo measurement of widespread synaptic loss in Alzheimer's disease with SV2A PET. Alzheimers Dement 16, 974-982.

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