the increasing evidence base for the efficacy of non-pharmacological interventions in treating agitation in dementia.

F1-05-04 WECAREADVISOR™: A RANDOMIZED CONTROLLED TRIAL TO TEST AN INNOVATIVE AND CAREGIVER-FOCUSED TOOL FOR THE ASSESSMENT AND MANAGEMENT OF BPSD

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Background: WeCareAdvisor™ is an easy-to-use, evidence-informed web-based platform providing knowledge about dementia, daily caregiver tips, and systematic problem-solving regarding behavioral symptoms using the DICE approach. **Methods:** WeCareAdvisor™ was evaluated in a two-site pilot randomized trial (R01 NR014200) to assess immediate impact on primary outcomes including caregiver distress (upset with behaviors), stress and confidence in managing behavioral symptoms. Participants included 57 family caregivers of persons with dementia enrolled from communities and medical clinics at two sites. Families reporting behavioral symptoms in a telephone screen were consented and interviewed at home. They were then were randomized to an immediate vs one-month (delayed) treatment group. Those receiving WeCareAdvisor™ immediately (WCA group) were provided an iPad and instruction in using the program; those in the delayed treatment group (DT) were informed of next study steps. All caregivers were reassessed at home one month from baseline. Those in the DT group then received the iPad and instructions in use and were re-interviewed one month thereafter. During the treatment phase, participants could receive up to 3 weekly check-in calls to encourage tool use and troubleshoot technical questions. **Results:** Results indicated that compared to the DT group, at one-month follow-up, the WCA group had: 1) significantly greater decline in distress ($t=-2.49$, $p=.02$); and 2) significantly greater difference in confidence ($t=2.55$, $p=.01$). Both measures remained significant after site adjustment. Stress was not significantly different between the WCA and DT groups. Data from the DT group showed that following their one-month use of the tool, they had significant improvement in distress ($t=-2.66$, $p=.012$), stress ($t=-2.19$, $p=.04$), and confidence ($t=4.56$, $p<.0001$), with distress and confidence remaining significant after site adjustment. Data on changes in patient behaviors with tool use are currently being analyzed and will be presented. **Conclusions:** WeCareAdvisor™ is one of the first tools developed within a usability framework to provide families with on demand assistance in managing one of the most challenging aspects of dementia care. Preliminary results from the trial are encouraging with significant change in caregiver outcomes with tool use for one month. The lessons learned from this trial will help inform future tool development for families and their providers.

SUNDAY, JULY 16, 2017
PLENARY
PL-01-02
BIOMARKERS FOR THE DIAGNOSIS OF ALZHEIMER'S DISEASE

PL-01-02-01 BIOMARKERS FOR THE DIAGNOSIS OF ALZHEIMER'S DISEASE

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Abstract not available.

SUNDAY, JULY 16, 2017
EMERGING CONCEPTS IN BASIC SCIENCE
EC-01
EMERGING CONCEPTS IN PROTEIN CLEARANCE AND DEMENTIA

EC-01-01 CLEARANCE OF INTERSTITIAL FLUID OF THE BRAIN AND PATHOGENESIS OF DEMENTIA

Roxana O. Carare, *University of Southampton, Southampton, United Kingdom. Contact e-mail: rcn@soton.ac.uk*

Background: Roxana Carare will address the anatomical pathways for interstitial fluid drainage of the brain and how they could be manipulated in the prevention and treatment of Alzheimer's disease. Solutes and fluid from the brain are eliminated along the basement membranes of capillaries and arteries and this process fails with ageing, possession of Apolipoprotein E4 and after immunization against Aβ.

EC-01-02 RELATIONSHIP BETWEEN CSF AND BRAIN IN PROTEIN CLEARANCE AND DEMENTIA

Rashid Deane, *University of Rochester Medical Center, Rochester, NY, USA. Contact e-mail: Rashid_Deane@URMC.Rochester.edu*

Background: Rashid Deane will analyse the communication between the cerebrospinal fluid compartment and the brain parenchyma. Proteins (macromolecules) associated with Alzheimer's disease (AD) are produced, mainly, within the brain parenchyma. They are accumulated in brain due largely to faulty clearance in the aging brain and in the sporadic form, the major form, of AD. Also, they are present in cerebrospinal fluid (CSF) and used as biomarkers. While there are many clearance pathways, the CSF/brain interstitial fluid relation plays a role in the clearance of macromolecules from brain. Enhancing CSF drainage may promote clearance of macromolecules, and provide novel therapeutic targets for the aging brain, which may delay the pending AD tsunami.

EC-01-03 A CENTRAL ROLE FOR NEUROINFLAMMATION IN VASCULAR CLEARANCE OF AMYLOID-BETA

Donna M. Wilcock, *Sanders-Brown Center on Aging, University of Kentucky, Lexington, KY, USA. Contact e-mail: donna.wilcock@uky.edu*

Background: Donna Wilcock will discuss the inflammatory factors associated with the failure of vascular clearance of Aβ. Hyperhomocysteinemia (HHcy) models small vessel disease in mice, and leads to a shift in amyloid distribution, increasing vascular amyloid deposition (CAA), when induced in APP/PS1 mice. HHcy induces a robust pro-inflammatory response in the brain that is known to result in reduced parenchymal amyloid deposition. However, the vascular injury induced by the HHcy negatively affects the perivascular drainage components including smooth muscle cells and astrocytic end-feet. This likely results in the accumulation of AB at the vasculature as CAA. These findings add to our understanding of the determinants of amyloid distribution.

EC-01-04 THE ROLE OF PICALM AND LRP1 IN TRANSVACULAR ABETA CLEARANCE ACROSS THE BLOOD BRAIN BARRIER

Zhen Zhao, *University of Southern California, Los Angeles, CA, USA. Contact e-mail: zzhao@usc.edu*

Background: Zhen Zhao will address the pathways of clearance of Ab across the walls of blood vessels. Transvascular clearance of