

Anti-Beta-Amyloid Passive Immunotherapy for Alzheimer's Dementia and Amyloid Related Imaging Abnormalities (ARIA): what's next?

Goal of Workshop: This National Institute of Neurological Disorders and Stroke (NINDS)/National Institute of Aging (NIA) sponsored workshop brings together leading experts and researchers from around the world to discuss the latest advancements and challenges in the field of anti-beta amyloid passive immunotherapy.

All times are Eastern Standard (EST).

Marriott Pooks Hill, North Bethesda, MD. September 28-29, 2023. In person - hybrid

DAY 1

8:30 am Welcome - Francesca Bosetti (NINDS)

8:35 am Introduction - Walter Koroshetz (NINDS)

Session 1. Clinical overview. Moderators: Steve Greenberg (Massachusetts General Hospital), Stephen Salloway (Brown University), Rod Corriveau (NINDS)

8:45 am Overview of anti-amyloid immunotherapy for Alzheimer's dementia. David Clifford (Washington University)

9:05 am What is known about amyloid-related imaging abnormalities showing edema and effusion (ARIA-E) and showing microhemorrhages and superficial siderosis (ARIA-H)? Reisa Sperling (Massachusetts General Hospital)

9:25 am Lessons learned from cerebral amyloid angiopathy-related inflammation (CAA-RI). Steven Greenberg (Massachusetts General Hospital)

9:45 am Neuropathological studies in patients treated with anti-beta amyloid antibodies with ARIA. James Nicoll (University of Southampton, UK)- VIRTUAL

10:05 am Advanced methods for blood-brain barrier imaging. John Detre (University of Pennsylvania)

10:25 am Lessons learned from clinical trials: Identification and clinical management of patients at risk for adverse events related to ARIA. Karen Smirnakis (Biogen)

10:45 - 11:00 am Break

11:00 – 11:40 am Panel discussion– Moderator: Clinton Wright (NINDS). Panelists: Anand Viswanathan (MGH), Susan Catalano (Capsida Biotherapeutics), Michael Irizarry (Eisai), Shari Ling (Centers for Medicare and Medicaid Services)

Session 2. Basic mechanisms overview. Moderators: Mark Fisher (University of California, Irvine), Donna Wilcock (Indiana University), Rod Corriveau (NINDS)

11:40 am Cerebral amyloid angiopathy, microvascular disease, and microhemorrhage. Mark Fisher (University of California, Irvine)

12:00 pm Cerebral amyloid angiopathy and neurovascular dysfunction: Role of innate immunity and ApoE4. Costantino Iadecola (Weill Cornell University)

12:20 – 1:15 pm Lunch break (on your own)

1:15 pm Blood-brain barrier (BBB) breakdown and other vascular compromise that can occur when anti- β -amyloid passive immunotherapy is used: Basic disease-related science of ARIA and basic mechanisms of BBB breakdown in ARIA. Donna Wilcock (Indiana University)

1:35 – 2:15 pm Panel discussion – Moderator: Lanier Heyburn (NINDS). Panelists: Gary Rosenberg (University of New Mexico), Helene Benveniste (Yale University), Thierry Bussiere (Biogen)

2:15 – 2:30 pm Break

Session 3. Future research ideas. Moderators: Katerina Akassoglou (Gladstone Institute, University of California, San Francisco), Costantino Iadecola (Cornell University), Linda McGavern (NINDS)

Preclinical research ideas:

2:30 pm What animal models would be useful in understanding cerebral amyloid angiopathy and ARIA. William Van Nostrand (University of Rhode Island)- VIRTUAL

2:50 pm Nonhuman primate models of cerebral amyloid angiopathy and ARIA. Lary Walker (Emory University)

3:10 pm Strategies to protect the blood-brain barrier in persons taking anti- β -amyloid antibody therapy. Katerina Akassoglou (Gladstone Institute, University of California, San Francisco)

3:30 pm Medin as an alternative target for prevention of vascular damage. Jonas J. Neher (German Center for Neurodegenerative Disease, Tubingen, Germany)

3:50 pm Protecting endothelial barrier and pericytes with activated protein C mutant: Effect of ApoE4. Bersilav Zlokovic (University of Southern California)- VIRTUAL

4:10 – 4:50 pm Panel discussion – Moderator: Francesca Bosetti (NINDS). Panelists: John Sims (Eli Lilly), Marion Buckwalter (Stanford University), Lawrence Honig (Columbia University)

4:50 – 5:00 pm Day 1 closing remarks

5:00 pm Day 1 adjourns

Day 2

Session 3. Future research ideas (continued). Moderators: Alessandra Rovescalli (NIA), John Detre (University of Pennsylvania), Cynthia Lemere (Brigham and Women's Hospital)

Clinical research ideas:

8:30 am Risks associated with cerebrovascular disease comorbidities and their treatments. Can anti- β -amyloid passive immunotherapy be safely combined with anti-thrombotic agents? Stephen Salloway (Brown University)

8:50 am How to determine risk of concomitant anti-thrombotic or thrombolytic therapy in persons with cerebral amyloid angiopathy. Sherry Chou (Northwestern University)

9:10 am Patient stratification: Can we identify patients who are not susceptible (or least susceptible) to adverse ARIA events as a result of anti- β -amyloid passive immunotherapy. David Knopman (Mayo Clinic)

9:30 am ARIA showing edema and effusion (ARIA-E), iatrogenic cerebral amyloid angiopathy-related inflammation (CAA-RI) and the ARIA paradox. Lessons learned from the last 10 years of biomarkers research and experience on cerebrospinal fluid anti-amyloid (auto)antibody testing for ARIA prediction and monitoring. Fabrizio Piazza (University of Milano-Bicocca, Italy)

9:50 am Emerging targets for immunotherapy. Cynthia Lemere (Brigham and Women's Hospital)

10:10 – 10:50 am Panel discussion – Moderator: Alessandra Rovescalli (NIA). Panelists: Scott Turner (Georgetown University), Teresa Buracchio (Food and Drug Administration), Maria Carrillo (Alzheimer's Association), Hanzhang Lu (Johns Hopkins University)

10:50 – 11:00 am Break

11:00 am – 12:00 pm Scientific gaps and priorities - Moderators: Francesca Bosetti (NINDS) and Roderick Corriveau (NINDS)

12:00 – 12:15 pm Conclusion and final remarks - Richard Hodes (NIA)

12:15 pm Meeting adjourns