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Jessica Rachel Barton
Philadelphia College of Osteopathic Medicine, Jessicaba@pcom.edu

Christine J. Hammond
Philadelphia College of Osteopathic Medicine, christineh@pcom.edu

Amy L. Brady

Denah M. Appelt
Philadelphia College of Osteopathic Medicine, DenahA@pcom.edu

Brian J. Balin
Philadelphia College of Osteopathic Medicine, brianba@pcom.edu

See next page for additional authors

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Analysis of Chlamydia pneumoniae and AD-like Pathology in the Brains of BALB/c Mice
Following Direct Intracranial Infection

Jessica R. Barton1, Christine J. Hammond1*, Amy L. Brady, Denah M. Appelt2*, Brian J. Balin1*, and C. Scott Little1*

1Department of Pathobiology, Microbiology, Immunology, and Forensic Medicine, 2Department of Neurosciences, Physiology, and Pharmacology • Center for Chronic Disorders of Aging, Philadelphia College of Osteopathic Medicine, 4170 City Avenue, Philadelphia, PA, 19131.

Objectives: Study the impact of Chlamydia pneumoniae on brain pathology in the BALB/c mouse model of late-onset Alzheimer’s disease (LOAD) and compare results to those from a LOAD model infected with C. pneumoniae and with a control model infected with Hank’s balanced salt solution (HBSS) alone.

Methods: BA LB/c mice were infected with C. pneumoniae and served in the infected mouse brains following direct intracranial injection. Global activation of glia was observed in the CNS of infected mice at both 7 and 14 days post-infection. This data confirms that the injection site spread distally from this location to other regions of the brain.

Material and Methods

Immunochemistry: Immunohistochemistry was performed on tissue sections of the brains from infected mice. Tissue sections were deparaffinized, hydrated, and then immersed in 3% H2O2/PBS for 10 minutes followed by incubation in 2% FB S/PBS. Slides were incubated with primary antibodies for glial fibrillary acidic protein (GFAP) and amyloid precursor protein (APP) for 24 hours at 4°C. After washing the slides with PBS, secondary antibodies were applied for another 24 hours at 4°C. Sections were stained with DAPI and observed under a Nikon Eclipse 50i microscope equipped with a Nikon Digital Sight DS-SMC Camera.

Results

GFAP-specific immunoreactivity in the brains of infected mice is presented here. The numbers and corresponding lines above are 1 m m apart from one another. The hippocampus and dentate gyrus, as well as regions notmunoreactive sites, amyloid deposits and activated glial deposits were labeled. Immunoreactivities are relevant to the progression of AD-like pathology in the mouse brain.

Conclusions

In infected mice there was a greater than 10-fold increase compared to uninfected mice at day 7. The brains of infected mice were stained with DAPI from the top to the bottom. The hooks of infected mice were stained with DAPI from the top to the bottom. The brains of infected mice were stained with DAPI from the top to the bottom. The hooks of infected mice were stained with DAPI from the top to the bottom.

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References


