

Regional Alzheimer's disease research

According to World Alzheimer Report 2015, over 46 million people live with dementia worldwide. The incidence of dementia is estimated over 9.9 million every year, and nearly half of new dementia cases (4.9 million) occurred in Asia. In China, over 9.5 million people are diagnosed with dementia and over 5.69 million with Alzheimer's disease (AD). Currently, China is the country with most diagnosed cases of AD in the world. AD burden will continue to increase over the coming years due to population aging. As predicted by the Chinese State Council, more than 20 million people would be diagnosed with AD in 2050.

Due to regional distribution differences of AD cases, AD research and education will continue to emphasize in the continents that are affected by AD the most. Geographically, Asia and Oceania are close together. Therein, I, and with support from Prof. Debomoy Lahiri, organized the thematic issue 'Translational Alzheimer's Disease Research'. We have made an international effort to fight with AD scientifically by recruiting the top researchers from Asia and Australia to contribute their works to the special thematic issue of the journal. Notably, in that thematic issue, a group showed that the density of aging related pathologies differ in people from Colombo, Sri Lanka compared to people from Bangalore, India. This further highlighted the importance of regional studies on AD due to different genetic, dietary and/or environmental variations, although the initiation of aging related pathologies might be the same.

From the genetic perspective, another group showed the very old people (carrying longevity genes) once underwent to AD had different brain structural changes compared to those affected at relatively early age (<85 years old). Further, plasma biomarkers levels could correlate with cognition and brain structural changes, which were influenced by genetic variants.

Talking about biomarkers, two research groups from China published meta-analysis studies in the thematic issue on sex related hormones, as well as metabolic pathways of carbohydrate, protein and fats. They found several blood biomarkers being elevated in AD. Another research group from China showed that neuroimaging could detect early changes in AD, as brain functional activity and connectivity of resting state networks differ compared to controls.

The research on AD aims at the early prevention and developing an effective therapy. That thematic issue also describes research efforts of using triptolide (a kind of Chinese medicine extract) and SS1 (a small peptide), in possibly treating AD-like pathologies in mice.

That thematic issue witnessed the regional co-operation and understanding on AD research. As it is a thematic issue, all manuscripts will be published in a comprehensive and logical manner. With the support from the journal of Current Alzheimer Research, finally, the thematic issue with nine manuscripts was published in February this year.

As an editorial board member of Current Alzheimer Research, I am planning to organize another thematic issue, focusing on clinical Alzheimer's research from an international group of eminent researchers, including from Asia and Oceania regions. Through internet, my colleagues and I

have established an online Chinese neurologist community group with over 500 members. How to do an effective clinical AD research and what to do are our next challenges to face.

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Publication

[Editorial: Translational Alzheimer's Disease Research.](#)

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