

# WORLD NEUROSCIENCE SUMMIT

September 05, 2022 | Webinar

## Artesunate and Tetramethylpyrazine Exert Protection Effects on Experimental Cerebral Malaria through Protein S-Nitrosylation

Yujie Li  
China

Cerebral malaria (CM) is caused by *Plasmodium falciparum*, resulting in severe sequelae; Intravenous artesunate is effective against CM, but high mortality and neurological sequelae in survivors are inevitable. We investigated the effect of combined artesunate (AS) and tetramethylpyrazine (TMP) using mouse models of experimental cerebral malaria (ECM). AS+TMP reduced microvascular blockage, improved neurological function and reduced pathology in ECM mice. AS+TMP downregulated the expression of adhesion molecules and sequestration of parasitized red blood cells (pRBCs), increased nerve growth factor (b-NGF), vascular endothelial growth factor A (VEGF-A), neurotrophin brain-derived neurotrophic factor (BDNF), neurotrophic factor-3 (NT-3) levels, and alleviated hippocampal neuronal damage and astrocyte activation. Using proteomics analysis, 128 downregulated and 64 upregulated brain proteins were identified in AS group, while 217 upregulated and 177 downregulated proteins were identified in the AS+TMP group, presenting a significantly altered proteome profile in AS +TMP group.

### Biography

Yujie Li, professor and doctoral supervisor, is currently deputy Director of scientific Research and Education Department, Institute of Chinese Materia Medica, and the leader of the innovation team of pharmacology of Chinese materia medica, Science and Technology Innovation Project, China Academy of Chinese Medical Sciences. She is also editorial Committee of Chinese Journal of Experimental Formulae, the expert of national Science and Technology Expert Database evaluation, the Beijing, Tianjin municipal science and technology evaluation expert database, heilongjiang province science and technology evaluation, and peer reviewed expert of the National Natural Science Foundation of China and Beijing Natural Science Foundation of China.