Sleep Deprivation and Ganwei Medication Rescue Resistance to Oxidative Stress and Alter Reproductive Output in Drosophila melanogaster with Alzheimer's Disease

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Effects of Sleep Deprivation and Herb Medication Ganwei on Behavioral and Biochemical Responses in Drosophila Alzheimer’s Disease Model Alzheimer’s Disease: Sleep Deprivation and Herb Therapy Alzheimer’s Disease (AD) is a chronic neurodegenerative disease that remains poorly explored. Currently, physical methods such as sleep deprivation (SD) are employed to alleviate symptoms of AD. On the other hand, herbal medications such as traditional Chinese medicine Ganwei (GW) are known to influence metabolic pathways that may be related to AD. Using an existing AD Drosophila model, we test AD Drosophila’s behavioral and biochemical responses to physical and chemical pressures. Both SD and GW can enhance resistance to oxidative stress, a behavioral response, by up to 36%. However, SD negatively impacts physiological indicators like reproductive output by around 50%, but this effect can be rescued by GW. These results demonstrate that SD and GW are using of similar pathways to confront AD. By implementing herbal medication alongside existing physical therapy, AD symptoms can be effectively addressed while minimizing side effects. Key words: Reactive oxygen species, Traditional Chinese Medicine, Neurodegenerative Diseases, Circadian rhythm

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