CURRICULUM VITAE

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NAME	POSITION TITLE
Chou, Tse-Ming	Ph.D. Student of Neuroscience

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Chung Shan Medical University, Taiwan	B.S.	2006-2010	Medical Laboratory and Biotechnology
National Yang-Ming University, Taiwan	M.S.	2010-2013	Institute of Neuroscience
Chang Gung University, Taiwan	RA	2015-2016	Institute of Behavioral Sciences
National Yang-Ming University, Taiwan	RA	2016 (Mar.-Aug.)	Institute of Neuroscience
National Yang Ming Chiao Tung University, Taiwan	Ph.D. Student	2016-Now	Institute of Neuroscience

A. Personal statement

Chronic migraine is a well-defined subtype of migraine and usually develops from episodic migraine. Migraine chronification involves pathophysiological changes in several brain regions, including the trigeminovascular system, periaqueductal gray matter, hypothalamus, and thalamus. These regions have been identified as key nodes of migraine circuitry. Patient of chronic migraine is often associated with psychiatric comorbidities such as anxiety and depression. However, the circuit mechanism underlying comorbidity of chronic migraine and mood disorders remains unclear. Here, I apply nitroglycerin (NTG, a nitric oxide donor) within two-week to mimic a CM attack in a mice model. These mice display persistent mechanical hyperalgesia, a proxy for migraine development and anxiety-like behavior. And increased phosphorylated extracellular signal-regulated kinase 1/2 (p-ERK1/2) level, a marker for neuronal activation and central sensitization were found in the paraventricular hypothalamic nucleus (PVN) and the amygdala (AG). In addition, we found two possible routes: I. The PVN-trigeminal projections, regulate brainstem trigeminovascular processing and II. PVN-amygdala projections, responsible for anxiety and depression disorders under CM. And, we hypothesize that the PVN plays a pivotal role in comorbidity of chronic migraine and mood disorders via these two pathways. Further, I will combine chemogenetic approach to dissect PVN-amygdala circuitry in sensitized migraine brain by selectively controlling individual components. Hope can dissect circuit mechanism and provide a therapeutic strategy for chronic migraine.

B. Experience and Honors

Experience

2012.9-2012.12 Teaching assistant of Immunology Department of Nursing, Mackay Medical College

2011.9-2011.12 Teaching assistant of Microbiology and Immunology Laboratory Department of Medicine, Mackay Medical College

Honors

2021 2nd place award of oral competition in the 35th (2021) Joint Annual Conference of Biomedical Science
2020 入圍獎，國立陽明大學神研所40週年系列活動學術論文研討會
2020 北區預賽入圍， 2020全國三分鐘生科論文口說競賽
2019 1st place award of TIGP-INS Retreat Travel Grant Award
2016-Now Taiwan International Graduate Program in Interdisciplinary Neuroscience Scholarship
2012.11 Travel Award for Attending International Conference, Office of International Affairs, National Yang-Ming University
2007-2009 National Science Council (NSC) College Student Research Scholarship, Taiwan

C. Publications

Peer-reviewed publication

2018, **Chou TM** and Chen SP*. Animal Models of Chronic Migraine *Current Pain and Headache Reports* 22(6):44