

**PS10**

## Prospective Analysis of the incidence in Anxiety affected by Physical Diseases in Late Life

Sang Dae Kim

Chonnam National University Hospital, Republic of Korea

**Abstract**

**Objectives:** This study aimed to investigate the associations between physical diseases and prevalent / incident anxiety in a community dwelling older population aged 65 years or over.

**Methods:** 1204 people aged 65 years or over evaluated at baseline, and 909 (75.4%) were followed two years later. Anxiety was identified at both evaluation points using the questions from the community version of the Geriatric Mental State Schedule together with diagnostic algorithm, the Automated Geriatric Examination for Computer Assisted Taxonomy. Reported physical diseases covering 11 common and generally chronic health problems were ascertained. Covariates included were age, gender, education, living area, accommodation status, past occupation, current occupation and marital status.

**Results:** In multivariate analyses, prevalent anxiety was independently associated with 9 of 11 physical diseases (arthritis or rheumatism, eyesight problems, hearing difficulty, persistent cough, asthma, hypertension, heart disease, gastrointestinal problems, and unilateral paralysis or weakness); and incident anxiety was independently associated with 2 physical diseases (arthritis or rheumatism and heart disease). Both prevalent and incident anxiety were significantly associated with increased number of physical diseases.

**Conclusion:** Certain physical diseases were identified as risk and/or precipitating factors for anxiety in elders. Appropriate intervention and treatment of physical diseases might mitigate the morbidity of anxiety in late-life.

**Key Words:** Physical disease, Anxiety, Aged, Epidemiology, Longitudinal study

**PS11**

## Diazepam suppresses the stress-induced excessive dopaminergic release in the amygdala of methamphetamine-sensitized rat

Takaaki Kawano

Tokyo Women's Medical University, Japan

**Abstract**

Diazepam is widely used in the treatment of various psychiatric disorders, but during clinical practice, the proper use of other psychotropic drugs is based on symptom classification and experience. We carried out this research for the purpose of clarifying the biological basis to contribute to better medication.

We used the rats that have stress-vulnerability because of methamphetamine-sensitized, which are regarded as biological models of psychiatric disorders. We also use the skill of fear stress conditioning with them, we researched the effect of diazepam using variation of the extracellular DA in the amygdala as the indicator, which is anatomical center of the affect. We inserted a probe in an amygdaloid body by an operation maneuver and we gathered dopamine using microdialysis and analyzed it. We also did behavior experiment to see the relationship between variation of dopamine and freezing behavior.

As the results, diazepam suppressed stress-induced extracellular DA increase of amygdala. Furthermore, diazepam suppressed stress-induced extracellular DA increase of amygdala of methamphetamine-sensitized rats which is give fear stress conditioning.

We already reported in previous time that similar phenomena occur at some kinds of antipsychotic drugs and mood stabilizers. We assume that these phenomena are important as pharmacodynamics of the psychotropic drugs, and this time we report this biological basis also in diazepam for the first time.

**PS12**

## Screening novel compounds for behavioural effects: repurposing epigenetic drugs for psychiatry

Dong Yao Wang, Jian Jin and Albert Hung Choy Wong

**Abstract**

**Background:** Mood and anxiety disorders are the leading causes of disability in established market economies such as in Canada. Current anxiolytic drugs have undesirable side effects. Thus better treatments are needed. Existing antidepressants with anxiolytic effects have been shown to reduce the level of G9a, a histone methyltransferase that methylates lysine 9 of histone H3 (H3K9). The methylation status of H3K9 plays an important role in mediating epigenetic responses to environmental stress. Thus, we reason that deliberately targeting G9a may be an effective strategy to discover new anti-anxiety medications.

**Hypothesis:** We hypothesize that the G9a inhibitors UNC0642 and A-366 will have anxiolytic-like effects in established animal models of anxiety.

**Method:** C57BL/6 mice were treated chronically (14 days) with 1mg/kg, 2mg/kg or 5mg/kg of UNC0642 or A-366. The anxiolytic-like effects of UNC0642 and A-366 on mouse behaviour were measured in the elevated zero maze (EZM), the marble burying test (MB) and on novelty suppressed feeding (NSF).

**Results:** Chronic treatment of A-366 increased the amount of time mice spent in the open arm of the EZM, decreased the number of marbles buried and decreased latency to eat in the NSF test. Chronic treatment of UNC0642 increased the amount of time mice spent in the open arms of the EZM but did not affect MB or NSF behaviours.

**Conclusion:** UNC0642 and A-366 showed dose-dependent anxiolytic-like effects on mouse behaviour with chronic treatment. The anxiolytic-like effect was likely due to G9a inhibition, given the distinct chemical structures of the two G9a inhibitors. Further experiments are needed to examine the underlying molecular and transcriptomic changes associated with behavioural changes.

**Significance:** These data increase knowledge of novel molecular pathways that regulate symptoms of human psychiatric disorders, and will lay the foundation for further efforts to discover new and better treatments for these important illnesses.

**PS13**Role of the hypothalamic  $\mu$ -opioidergic systems in the anti-tumor immune responseYusuke Hamada<sup>(1)</sup>, Yoshihiko Tasaki<sup>(1)</sup>, Kana Morita<sup>(1)</sup>, Wataru Ito<sup>(1)</sup>, Yuri Fujimori<sup>(1)</sup>, Michiko Narita<sup>(1)</sup>, Hideki Tamura<sup>(2)</sup>, Masami Suzuki<sup>(3)</sup>, Naoko Kuzumaki<sup>(1)</sup>, Kazunori Aoki<sup>(4)</sup>, Akihiro Yamanaka<sup>(5)</sup>, Minoru Narita<sup>(1,2)</sup>

<sup>(1)</sup> Dept. Pharmacol., Hoshi Univ., Tokyo, Japan <sup>(2)</sup> L-Star, Hoshi Univ., Tokyo, Japan <sup>(3)</sup> Div. Cancer pathophysiol., NCCRI, Tokyo, Japan <sup>(4)</sup> Div. Mol. & Cell. Med., NCCRI, Tokyo, Japan <sup>(5)</sup> Dept. Neurosci.II, RIEM, Nagoya Univ., Nagoya, Japan

**Abstract**

The suppression of anti-tumor immune responses was considered as the prime factor in the tumor growth. Additionally, cancer inactivates the mechanism of host immune surveillance.