学会/受賞報告書

Serotonin Club Meeting
Travel Award受賞

婦人科学分野　大学院生
猪狩 もえ

感想：

モントリオールで開かれたセロトニンクラブの学会は、非常にアットホームな雰囲気で進みました。セロトニンをテーマとする世界各国の研究者が集まっていました。文献で何度も名前を見たことのある研究者が多く出席していて、研究だけでなく、苦労話まで聞いてみたいことだらけでした。学会の間は、発表だけではなく朝食や夕食もともにし、非常に有意義なディスカッションと和やかな会話を楽しむことができました。私は、Travel Awardをいただき、口頭発表の機会をいただきました。私にとっての国際学会での口頭発表は初めてで、練習を重ねましたが、至らない部分も多くあった発表でした。しかし、出席されていた研究者の方々は、非常に真摯に耳を傾けて下さいました。他の発表を聞いてセロトニン系について、私がまだ知らないことが多くあり、もっと多くの知識を身につける必要性を実感しました。また、私の研究テーマである、薬物依存以外の研究への興味も広がりました。

ポスター発表の会場や食事の度に、一人で参加していた私を気遣って声をかけていただき、研究内容だけではなく、卒業後の進路のことまで心配してもらい温かな気持ちになれました。学会を通して、コミュニケーションスキルを磨き研究内容を伝えること、相手から受け取ることの重要性を体感しました。

受賞研究：

ROLE OF SEROTONIN 1B RECEPTOR IN SEROTONERGIC PREVENTION FROM METHAMPHETAMINE-INDUCED BEHAVIOURAL SENSITISATION IN SEROTONIN TRANSPORTER KNOCKOUT MICE.

Moe Igari (1), Hao-wei Shen (2), Yoko Hagino (2), Klaus-Peter Lesch (3), Dennis L Murphy (4), F Scott Hall (5), George R Uhl (5), Kazutaka Ikeda (2), Nobuo Yaegashi (1) and Ichiro Sora (1)

抄録：
Objective: Serotonergic modulation of psychostimulant-induced behavioural sensitisation with its interaction of dopaminergic system has been strongly suggested in studies. Studies examined effect of serotonergic manipulation on psychostimulant-induced behavioural sensitisation by using pharmacological agonists and/or antagonists in rodents, however these studies often showed conflicting results. Whether increased serotonergic transmission would enhance or inhibit psychostimulant-induced behavioural sensitisation is still not clear, because serotonergic system consists of complicated receptors. In present study, we aimed to examine effect of increased serotonergic transmission on methamphetamine (METH)-induced behavioural sensitisation, and which serotonin (5-HT) receptor(s) are crucial for METH-induced behavioural sensitisation by using mice lacking serotonin transporter (SERT KO).

Methods: Heterozygous, homozygous SERT KO mice and wild type mice (SERT +/-, SERT -/- and SERT +/+, respectively) was administrated 1 mg/kg of METH and recorded their locomotor activity for 120 min to examine effect of SERT deletion on METH-induced behavioural sensitisation. To find out crucial receptor(s) for METH-induced behavioural sensitisation, SERT +/+ and SERT -/- mice were pretreated with 5-HT_2 receptor antagonist, ketanserin (1 or 3 mg/kg), 5-HT_{1B} receptor antagonist, SB 216641 (3 mg/kg) or saline. After the pretreatment, mice were administrated METH and recorded locomotor activity for 120 min. Results: METH failed to induce behavioural sensitisation in SERT -/- mice, but METH-induced behavioural sensitisation was observed in SERT +/- and SERT +/+ mice. Ketanserin (1 or 3 mg/kg) did not develop METH-induced behavioural sensitisation in SERT +/+ and SERT -/- mice. However, both dose of ketanserin showed sedative effect in all mice. In contrast, SB 216641 developed METH-induced behavioural sensitisation in SERT -/- mice.

Conclusion: Significant inhibition of METH-induced behavioural sensitisation was observed in SERT -/- mice that showed significantly higher extracellular 5-HT level. However, pretreatment with SB 216641, selective 5-HT1B receptor antagonist disinhibited this serotonergic inhibition and develop METH-induced behavioural sensitisation in SERT -/- mice. These results indicated that excessive serotonergic transmission prevent METH-induced behavioral sensitisation and 5-HT1B receptor would play a crucial role in METH-induced behavioural sensitisation.