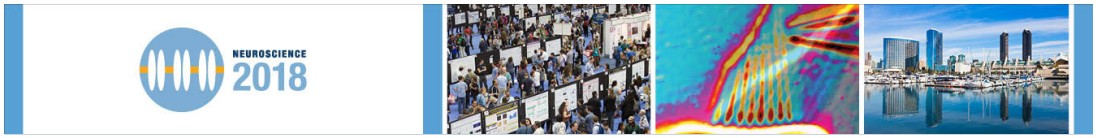

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Session 684 - Other Psychiatric Disorders II

Add to Itinerary

684.14 / AAA19 - Effects of the satiety signal oleoylethanolamide on binge-like food consumption in female rats

November 7, 2018, 8:00 AM - 12:00 PM | SDCC Halls B-H

Presenter at Poster
Wed, Nov. 7, 2018, 9:00 AM - 10:00 AM

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Abstract
Several lines of evidence document the association between eating disorders and modern lifestyle, encompassing calorie-rich diets and psychological stress. Binge-eating disorder (BED) is a eating disorder characterized by excessive consumption of food in a short period of time, along with loss of control and psychological distress. Among the networks that partake in the neurobiological bases of BED a large body of evidence supports the activation of the hypothalamic-pituitary-adrenal stress (HPA) axis. Pharmacological treatments for BED are limited thus highlighting the need to identify novel targets that could lead to the development of more effective therapies. A large body of evidence has accumulated on the role played by the lipid signal oleoylethanolamide (OEA) as a pharmacological target for controlling aberrant eating disorders. As a drug, OEA reduces food intake and body weight gain in laboratory rodents by inducing a state of satiety. Additionaly, OEA dampens the hyperactivity of the HPA axis and ameliorates the effects of stress. On the bases of these premises, in the present study we investigated the effects of OEA on high palatable food (HPF) intake in a rat model of BED. Moreover, we assessed the impact of OEA on the corticotropin-releasing factor (CRF) system which plays a critical role in stress and on the oxytocinergic system which is crucial in mediating the pro-satiety effect of OEA. We used female rats with a history of intermittent food restriction which show binge-like palatable food consumption after the exposure to a “frustration stress”. On the test day, we either exposed or did not expose the rats to the sight of the palatable food (frustration stress) before assessing food consumption. OEA was administered at three different doses (2.5, 5, 10 mg/kg i.p.) and HPF intake was monitored over 2h. After the behavioural experiment brains were collected and *in-situ* hybridization experiment was performed to analyse CRF and oxytocin mRNA expression in selected brain areas. Our results demonstrate that OEA (10 mg/kg) was able to selectively prevent binge eating; the antibinge effect was accompained by a reduction of CRF mRNA within the central-amygdala. Finally, in keeping with our previous observations we found that the antibinge effect of OEA was accompanied by a significant increase of oxytocin mRNA at hypothalamic level. In the current study, we provide for the first time evidence to support that the endogenous fatty-gut lipid OEA exerts a selective inhibitory effects on binge-like eating behavior in female rats, supporting the hypothesis that OEA might represent a novel potential pharmacological target for the treatment of aberrant eating patterns.

Abstract Citation

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