

EFFECTS OF GALANIN N-TERMINAL FRAGMENT (1-15) IN SACCHARIN SELF-ADMINISTRATION AND SUCROSE PREFERENCE TEST IN RATS.

L. García-Durán¹, N. Cantero-García¹, A. Flores-Burgess¹, B. Gago¹, F. Allén², L. Orió², JA. Narváez¹, K. Fuxe³, L. Santín⁴, Z. Díaz-Cabiale¹, C. Millón¹.

1. Instituto de Investigación Biomédica, Facultad de Medicina, Universidad de Málaga, Málaga.
2. Facultad de Psicología, Universidad Complutense, Madrid.
3. Karolinska Institute, Stockholm, Sweden I
4. Instituto de Investigación Biomédica, Facultad de Psicología, Universidad de Málaga, Málaga.

The Galanin N-terminal fragment (1-15) [GAL(1-15)] induces depressant- and anxiogenic-like actions in several behavioral tests, and these effects were significantly stronger than the ones induced by Galanin (1-29). Since, anhedonia is a core feature of major depressive disorder, we have analyzed GAL(1-15) actions in two anhedonic-like behaviour tests: saccharin Self-administration and Sucrose Preference test.

Three sets of experiments were conducted in the saccharin Self-administration test. In the first, a dose-response curve of GAL(1-15) 1nmol, 3nmol or vehicle was performed. We have also compared the effects in the number of saccharine reinforcements of Galanin (1-29) 3nmol and GAL(1-15) 3nmol. In the last experiments, rats received i.c.v. GAL(1-15) 3nmol and the GALR2 antagonist M871 3nmol.

In Sucrose Preference test, we have analyzed the effects of GAL(1-15) 3nmol in the sucrose intake and preference after 2, 8 and 24 h.

GAL(1-15) 3nmol significantly decreased the number of reinforcement of saccharin self-administer ($p<0.01$), while 1nmol lacked effect. GAL(1-15) also significantly reduced the number of reinforcement ($p<0.01$) compared with Galanin (1-29). The GALR2 antagonist M871 significantly blocked ($p<0.05$) the decrease in the number of saccharin reinforcements administration induced by GAL(1-15).

In the Sucrose Preference test, GAL(1-15) decreased the sucrose intake 8 ($p<0.05$) and 24 hours ($p<0.01$) after administration.

In the current study, we described for the first time that GAL(1-15) induced a strong anhedonia-like phenotype in the saccharin self-administration and Sucrose Preference test, confirming an important role of this neuropeptide in anhedonia, a core feature of major depressive disorders.

This study was supported by Spanish SAF2016-79008-P and PPIT.UMA.B1.2017/17.