**Galanin (1-15) and escitalopram combination in rats reduces alcohol consumption in the ethanol self-administration test and improves escitalopram effects in the forced swimming test.**

**Noelia Cantero-García[1]**, Antonio Flores-Burgess[1], David Ladrón de Guevara-Miranda[2], Antonia Serrano[3], Laura García-Durán[1], Araceli Puigcerver[2], Kjell Fuxe[4], José Ángel Narváez[1], Luis Santín[2], Zaida Díaz-Cabiale[1] & Carmelo Millón[1].

1.Universidad de Málaga, Instituto de Investigación Biomédica de Málaga, Facultad de Medicina, Campus de Teatinos s/n, 29071 Málaga, Spain.
2. Departamento de Psicobiología y Metodología en Ciencias del Comportamiento, Facultad de Psicología, Universidad Complutense de Madrid, Spain.
3. Unidad de Gestión Clínica de Salud Mental e Instituto de Investigación Biomédica de Málaga, Hospital Regional Universitario de Málaga, Málaga 29010, Spain.
4. Department of Neuroscience, Karolinska Institute, Stockholm, Sweden.

Recently, we described that Galanin(1-15)[GAL(1-15)] enhanced Escitalopram(ESC) effectiveness in depression symptoms. Moreover GAL(1-15) induces a substantial reduction in alcohol consumption. To investigate the effect of GAL(1-15) on ESC-activity in depression-alcoholism comorbidity, we used the ethanol self-administration test and the forced swimming test(FST) in rats, after a chronic alcohol consumption. Also to study if GAL(1-15)+ESC modulate the reward system induced by different reinforcers we have analyzed this combination in the saccharine self-administration test.

Groups of rats received three times intraperitoneal injections of ESC (2.5mg/Kg or 7.5mg/Kg) 23, 5 and 1h before the test and one icv injection of GAL(1-15) (0.3nmol or 1 nmol) 15 minutes before the test. One-way ANOVA followed by Fisher´s least significant difference test was used.

In the saccharin self-administration test, the coadministration GAL(1-15)(1nmol) and ESC(2.5mg/Kg) induced a strong reduction in the number of reinforcements of saccharine ($p<0.05$) and in number of active lever presses ($p<0.05$).
In the ethanol Self-Administration test, GAL(1-15)(0.3nmol) enhanced the reduction of alcohol intake mediated by ESC(2.5mg/Kg). GAL(1-15) decreased the number of alcohol reinforcements ($p<0.01$) and the number of active levers pressed ($p<0.01$) by around 50% induced by ESC.
In FST, in rats under a chronic alcohol consumption, GAL(1-15) reversed adverse ESC-mediated effects. The coadministration of GAL(1-15)(1nmol) and ESC(7.5mg/Kg) showed a significant decrease in immobility ($p<0.05$) and an increase in swimming($p<0.05$) compared with ESC group.

The results open up the possibility to use GAL(1-15) in combination with Escitalopram as a novel strategy in AUD comorbidity with depression.

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