

**Sociedad de
Biología de Cuyo**

**XXXVII Reunión
Científica Anual**
5 y 6 dic 2019 - San Luis

Ciencia



Educación

**Investigación
y Ambiente**

Integración

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XXXVII Reunión Científica Anual de la Sociedad de Biología de Cuyo, San Luis, Argentina.

Libro de Resúmenes

XXXVII Reunión Científica Anual

Sociedad de Biología de Cuyo



5 y 6 de Diciembre de 2019
Centro Cultural José La Vía

Avenida Lafinur esquina Avenida Illia
San Luis
Argentina





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recorded in March, while the maximum values for *Artemisia* (11 pollen grains/m³ of air) were recorded in February. In this study, during the pollination period an increase in the elemental content was observed. Therefore, the metals could be transported by aero particles such as pollen grains increasing respiratory disorders.

86. EFFECT OF THE JOINT ADMINISTRATION OF KETAMINE AND FLUOXETINE IN POSITIVE CALBINDINE INTERNEURONS OF THE BASILATERAL NUCLEUS OF AMÍGDALA IN *Ratus norvegicus*: PRELIMINARY RESULTS

Guevara MA¹, Vaquero A², Fernandez Diez M², Marques Herrero SN¹, García Menendez S¹, Romanowicz E¹, Barrutieta F², Bengoetxea Odriozola H², Ortuzar Marques N², Baiardi G³, Lafuente Sanchez JV³, Gargiulo PA¹.

¹ Laboratory of Neurosciences and Experimental Psychology. Area of Pharmacology. Faculty of Medical Sciences. National University of Cuyo. (CONICET). ² Laboratory of Clinical and Experimental Neurosciences (LaNCE). Department of Neuroscience. University of the Basque Country. Leioa. Spain. ³ Laboratory of Neuropharmacology. Faculty of Chemical Sciences, University Catholic of Cordoba. vetguevara@hotmail.com

There are different pharmacological treatments for depression, limited in their effectiveness and many have very long latency periods. Current research points to NMDA antagonists as possible therapeutic targets of this disorder. The objective of this work was to assess at a behavioral level the synergistic interactions between the antidepressant of the SSRIs group fluoxetine, and ketamine, a non-competitive NMDA receptor antagonist and correlate the findings with structural changes in the basolateral nucleus of the tonsil with respect to positive calbindin interneurons. Holtzman rats that were treated with fluoxetine were used. 10, 15 and 20 mg / kg and ketamine. 2.5, 5 and 10 mg / kg and subsequently were evaluated in the forced swim test each group consisted of n = 20. Fluoxetine in doses of 10 and 15 mg / kg and ketamine in doses of 2.5 and 5 mg / kg did not produce a significant decrease in immobility time. On the contrary, if significant decreases were observed with fluoxetine 20 mg / kg (p <0.01) and ketamine 10 mg / kg (p <0.05). Likewise, there was a significant decrease in immobility time when fluoxetine 10 mg / kg + ketamine 2.5 mg / kg (p <0.01) and fluoxetine 15 mg / kg + ketamine 5 mg / kg (p <0,0001). At 24 hours after the test, positive calbindin interneurons of the basolateral nucleus of the tonsil were analyzed by immunohistochemistry. Each group consisted of an n = 3. It was observed that the saline group presented significant differences with the group treated with 20 mg / kg of fluoxetine (p = 0.001), with the group treated with 5 mg / kg of fluoxetine (p = 0.0001) and with the group treated with 5 mg / kg of fluoxetine + 2.5 mg / kg of ketamine (p = 0.0001), the latter being the one with the least positive calbindin interneurons. Ketamine groups have not yet been analyzed. These results indicate that co-administration of fluoxetine and ketamine can induce a more potent antidepressant activity than when used alone. In addition, the decrease in the density of positive calbindin interneurons in the basolateral nucleus of the amygdala could be directly related to the action of drugs on these neuronal populations, thereby increasing neuronal plasticity and being able to restore excitatory and inhibitory balance.

87. COX 1 AND COX 2 INHIBITIONS BY A DECOCTION OF ANDEAN SPECIES FROM SAN JUAN PROVINCE, ARGENTINE

Lima B^{1,3}, Coirini H^{2,3}, Tapia AA¹, Feresin GE^{1,3}

¹Instituto de Biotecnología, Fac. de Ingeniería, UNSJ, Av. Libertador Gral. San Martín 1109 (Oeste), 5400, Argentina, ²Instituto de Biología y Medicina Experimental - Neurobiología (IBYME), Fac. de Ciencias Exactas y Naturales, UBA, ³CONICET blima.unsj@gmail.com

Plants are a source of bioactive metabolites; the ability to act in multiple signalling pathways characteristic of inflammatory processes has been reported. The aim is to obtain alternative drugs with higher potency and lower undesirable effects. The species *Azorella cryptantha*, *Oxalis erythrorhiza*, *Pachylaena atriplicifolia* and *Tetraglochin ameghinoi* that grow in Andes scopes from San Juan, Argentina, are used to treat illness related to inflammatory processes in traditional medicine. The dry aerial parts were used to prepare decoctions (DC) (10% w/v), and were assayed to inhibit cyclooxygenase enzymes (COX-1 and COX-2). The effect was calculated the percent inhibition of COX isoforms measured by colorimetric assay (Kit No. 701050, Cayman Chemical), diclofenac sodium and etoricoxib were used as reference inhibitors (1-2 µg/ml). The DCs were evaluated at 18, 36 and 72 µg/ml. Regarding COX-2, DC from *A. cryptantha* and *O. erythrorhiza* were actives with inhibitory values of 82.10 and 86.97% respectively, to a concentration of the 72 µg/ml. On the other hand, all DCs were not selective to inhibit COX-2, the percentage of inhibition in COX-1 was lower. These results showed that *A. cryptantha* and *O. erythrorhiza* are consistent with the traditional use of these species in phytotherapeutic preparations with a potential anti-inflammatory effect, by blocking the COX-2 proinflammatory enzyme pathway. PIO CONICET SECITI 022. CICITCA UNSJ.