A151

BEHAVIORAL MODIFICATIONS INDUCED BY KETAMINE SUBANESTHETIC DOSES INJECTED 5 TO 30 MINUTES IN THE FORCED SWIMMING TEST.

Guevara M[1], Marquez Herrero S[1], Sanchez F[1], Lafuente JV[2], Baiardi G[3], Gargiulo PA[1]
1. Laboratory of Neurosciences and Experimental Psychology. Area of Pharmacology.Faculty of Medical Sciences.National University of Cuyo.CONICET. Mendoza. Argentina. 2. Laboratory of Clinical and Experimental Neurosciences (LaNCE). Department of Neuroscience.University of the Basque Country.Leioa. Spain. 3. Laboratory of Neuropharmacology, Institute of Biological and Technological Research (IIBYT-CONICET). National University of Córdoba.Faculty of Chemical Sciences.Catholic University of Córdoba. 5017. Córdoba. Argentina. E-*mail: vetguevara@hotmail.com*

Ketamine, by antagonizing the NMDA (N-Methyl-D-Aspartic Acid) receptors of glutamate, produces psychotomimetic effects. In previous studies we have verified the action of antagonists of this type injected intraperitoneally in behavioural tests in rats. In the present work the effect of the administration of ketamine at low doses (2.5, 5 mg / kg) is studied in the forced swimming test, at 5 and 30 minutes. Holtzmanderived rats weighing 280 to 310 g were used. This test is based on the principle of learned hopelessness, which establishes that every organism that is subjected to a stressful event that it cannot control and from which it cannot escape develops, initially, anxiety and subsequently, if the event remains in time, depression. There was a significant decrease in swimming with the dose of 2.5 mg/kg ($p < 0.05$), an increase in climbing in the saline groups and 5 mg/kg ($p<0.001$, $p<0.01$) and the consequent decrease in resting only in the saline group ($p<0.05$). We conclude that the administration of ketamine at the doses studied produces behavioural alterations in the times in which the tests were performed.

A152

ACTION OF KETAMINE ON ACQUISITION IN THE NOVEL OBJECT RECOGNITION TEST AND THE METABOLIC ACTIVITY IN HIPPOCAMPUS

Guevara M[1], Romanowicz E[1], Garcia Menendez S[1], Lafuente JV[2], Baiardi G[3], Gargiulo PA[1].
1.Laboratory of Neurosciences and Experimental Psychology. Area of Pharmacology.Faculty of Medical Sciences.National University of Cuyo.CONICET. Mendoza. Argentina. 2. Laboratory of Clinical and Experimental Neurosciences (LaNCE).Department of Neuroscience. University of the Basque Country.Leioa. Spain. 3. Laboratory of Neuropharmacology, Institute of Biological and Technological Research (IIBYT-CONICET), National University of Córdoba, Faculty of Chemical Sciences, Catholic University of Córdoba. 5017 Córdoba. Argentina. E-mail: vetguevara@hotmail.com

Psychotogenic effects of ketamine, due to antagonism of NMDA (N-methyl-D-aspartic acid) glutamate receptors, are widely known, and they are subject of study in our laboratory. In the present study we searched for the effect of systemic administration of ketamine at low doses in the novel object recognition test. Holtzman derived colony rats weighing 240-290 g were used. Novel object recognition test involves variables related to memory and perception. We used an intraperitoneal administration of ketamine in sub-anesthetic doses (1.25, 2.5 and 5 mg / kg ip) 3 min before training. Test was realized 120 min after training. Additionally, groups of five rats treated with saline or different sub-anesthetic doses were paired for measurement of hippocampus metabolic activity 8 min after injection. It was evaluated using MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) through spectrophotometric wavelength measurement. We observed that treatment produced a significant increase in total scan time in the evaluation session ($p < 0.05$) at all doses. It also led to a significant decrease in the discrimination rate ($p < 0.001$) at doses of 2.5 and 5 mg/kg. These findings allow us to postulate that treatment induced an inhibitory effect on short-term memory. Metabolic activity showed an evident and significant decrease in hippocampus (1.25 mg/kg; 2.5 mg/kg, $p<0.001$). We conclude that systemically administered ketamine in low doses produces inhibitory effect on short-term memory. These behavioral findings are accompanied by a decrease in metabolic activity in the hippocampus.

A153

SAMPLING AND IDENTIFICATION OF POLLEN, ASSOCIATED WITH THE DETERMINATION OF METALS AS AN INDEX OF ENVIRONMENTAL POLLUTION

Isaguirre AC[1], Moyano MF[1,2], Daguerre A[1], Moglia MM[1].
[1]Proyecto: "Radiación solar y medio ambiente" (FCFMyN - UNSL). Lavalle s/n e/ Chacabuco y Mitre, San Luis, Argentina. [2]Instituto de Química de San Luis (CONICET-UNSL). Ejercito de Los Andes 950, San Luis, Argentina.
E-mail: mmmoglia@unsl.edu.ar

People are exposed to a great diversity of environmental pollutants, coming from anthropogenic activities. Metal pollution has been increasing rapidly over the past century, and at the same time, the human population has continued to rise and producing contaminants. Thus, particles such as pollen grains may contain various trace elements, and their amounts vary from one species to another. They can present traces of metals such as lead (Pb), barium (Ba), cobalt (Co) and manganese (Mn), which are among the most common soil contaminants and are considered toxic to living beings. In the present work we propose a simple and fast method for the multielemental determination of traces in aerobiological samples. The sample of aeroparticles was obtained with a volumetric Lanzoni sensor, which is located on the terrace of the National University of San Luis. This device allows the capture