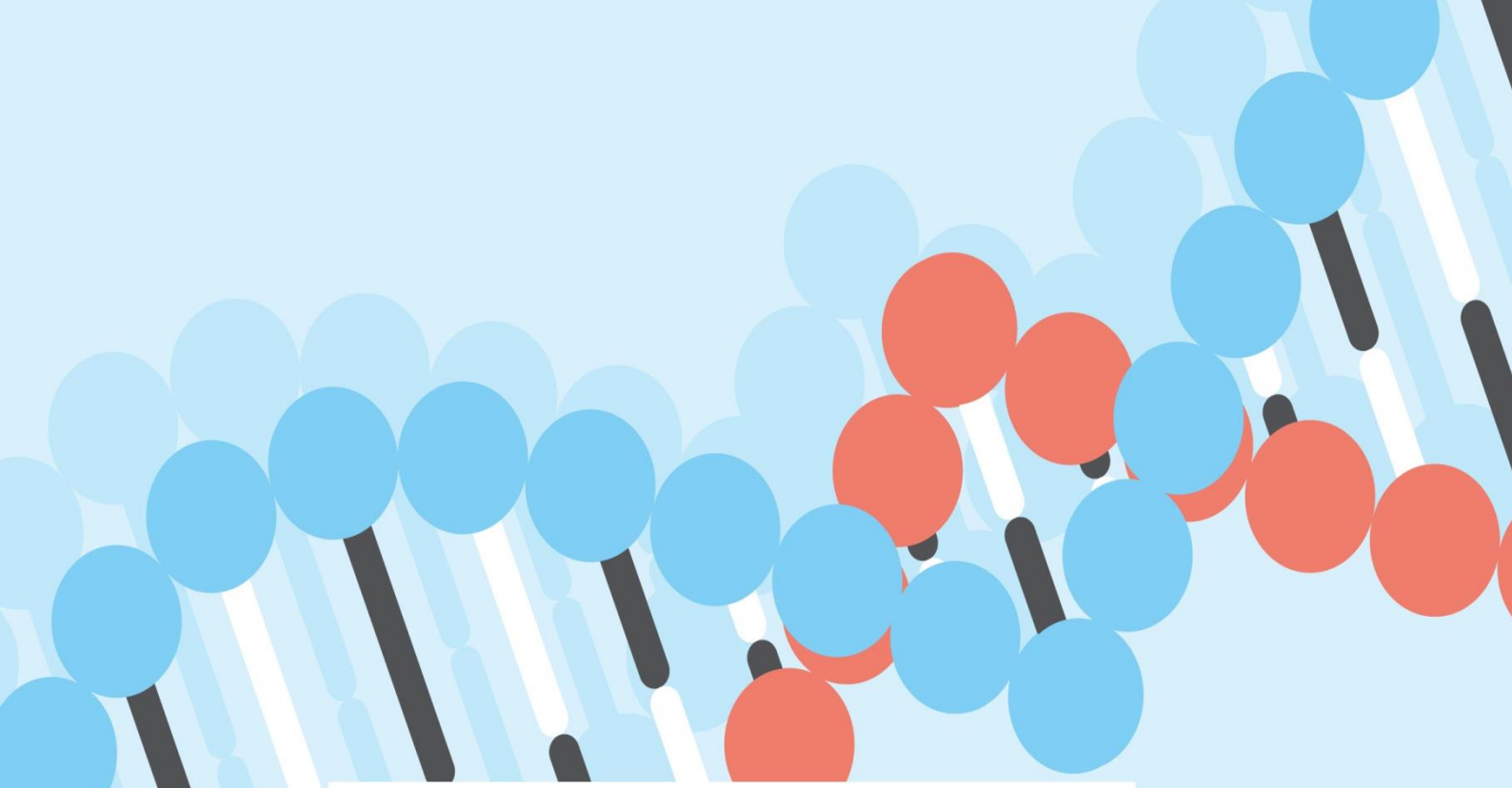

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Argentina

Índice General

the changes produced are time dependent, while T and Zn affect WBC in a different way, depending on the treatment and time period.

109. SHIGA TOXIN 2 CHANGES NEUROTRANSMITTER EXPRESSION OF NEURONS FROM MURINE MOTOR CORTEX AND STRIATUM

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Shiga toxin 2 (Stx2) from enterohemorrhagic *Escherichia coli* (EHEC) causes hemolytic uremic syndrome (HUS) and acute encephalopathy, which may lead to fatal outcomes in patients. Neurological signs of this disorder include decerebrate posturing, hemiparesis, ataxia, seizures and changes in the level of consciousness (from lethargy to coma). When neurological symptoms are evidenced mortality rate may rise up to 40%, significantly higher in comparison to that produced by HUS (5%). The motor areas of the brain are frequently affected in patients infected with EHEC. The aim of this study was to determine whether Stx2 changes the expression of neurotransmitters and/or the number of dopaminergic, GABAergic and glutamatergic neurons from the motor cortex and striatum. Swiss male mice (n=4) were treated intravenously with vehicle (control) or 1ηg of Stx2 (100µl per mouse). All animals were intracardially fixed on the 4th day (day of the injection considered as day 0) and their brains were subjected to immunofluorescence with an anti-tyrosine hydroxylase (TH) antibody to identify dopaminergic axons from substance nigra, anti-GABA and anti-glutamate antibodies to identify motor cortex GABAergic and glutamatergic neurons. Stx2 increased the striatal expression of TH in comparison to control-treated mice (36.17±5.44 vehicle vs 98.89±2.52 Stx2; in IOD; $p<0.05$). On the other hand, Stx2 reduced the expressions of GABA (2.1±0.24 vehicle vs 1.38±0.09 Stx2; in IOD; $p<0.05$) and glutamate (1.82±0.13 vehicle vs 0.9±0.03 Stx2; in IOD; $p<0.05$) per neuron in motor cortex, while no significant changes were found in the number of GABAergic and glutamatergic positive neurons between control and Stx2 groups. These results may suggest a compensatory mechanism carried out by substancia nigra´s nigrostriatal neurons. The presented results together with previous published ones may indicate that the increased expression of TH compensates a lack of striatal neurons from the extra pyramidal system that suffered from a neurodegenerative process. In addition, the decreased on GABA and glutamate expression in the murine motor cortex could be a consequence of a reduction on neuronal metabolism produced by ribotoxic stress from Stx2 action. We concluded that Stx2 changed the expression of the 3 main neurotransmitters that are responsible for the pyramidal and extra-pyramidal signalling pathways involved with the reported motor alterations in patients and animal models.

110. EFFECT OF MELATONIN ADMINISTRATION ON THE MALE VISCACHA ADRENAL CORTEX PROLIFERATIVE ACTIVITY

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The adrenal cortex, under control of the hypothalamic-pituitary-adrenal axis, produces specific steroid hormones which are key to ensure physiological adaptation and improvement of survival chances when facing homeostatic challenges. The viscacha (*Lagostomus maximus maximus*) is a hystricomorph rodent that lives in burrows and has nocturnal habits. The adult male viscacha exhibits an annual reproductive cycle synchronized by the environmental photoperiod through the pineal gland and its main hormone, melatonin. The aim of this study was to assess the effect of melatonin administration on the adrenocortical cells proliferative activity in adult male viscachas. For this study, animals were divided in two groups: an experimental group (n=4) that receive two daily injections of melatonin; and a control group (n=4) that receive two daily injections of the diluent. After 9 weeks, animals were sacrificed and adrenal glands processed for light microscopy. Adrenal cortex proliferation activity was assessed trough immunohistochemical detection of the proliferating cell nuclear antigen (PCNA), an S-phase related cell proliferation marker. The number of PCNA-immunoreactive adrenocortical cells (PCNA-ir) was counted per reference area. Differences between the two groups were evaluated using Mann–Whitney U test. In both experimental and control animals, cell proliferation was observed mainly in the outermost portion of the adrenal cortex, near the zona Glomerulosa and outer zona Fasciculata. In the innermost portion of the cortex PCNA-ir cells were scarce, except in some control animals where proliferation could also be observed in the inner zona Fasciculata. In melatonin administered animals, the number of PCNA-ir was (1.31 ± 0.2) significantly lower than in control animals (2.31 ± 0.16). These results indicate that proliferation in the adrenal cortex of the viscacha occurs mainly in the outermost portion of the cortex as described in other mammal species. Furthermore, melatonin is capable of modulating the adrenal cortex proliferative activity, reducing proliferation under stressful conditions of daily manipulation and subcutaneous injections.

111. TOXIC EFFECTS OF AGROCHEMICAL HERBICIDES ON *Pomacea canaliculata*

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