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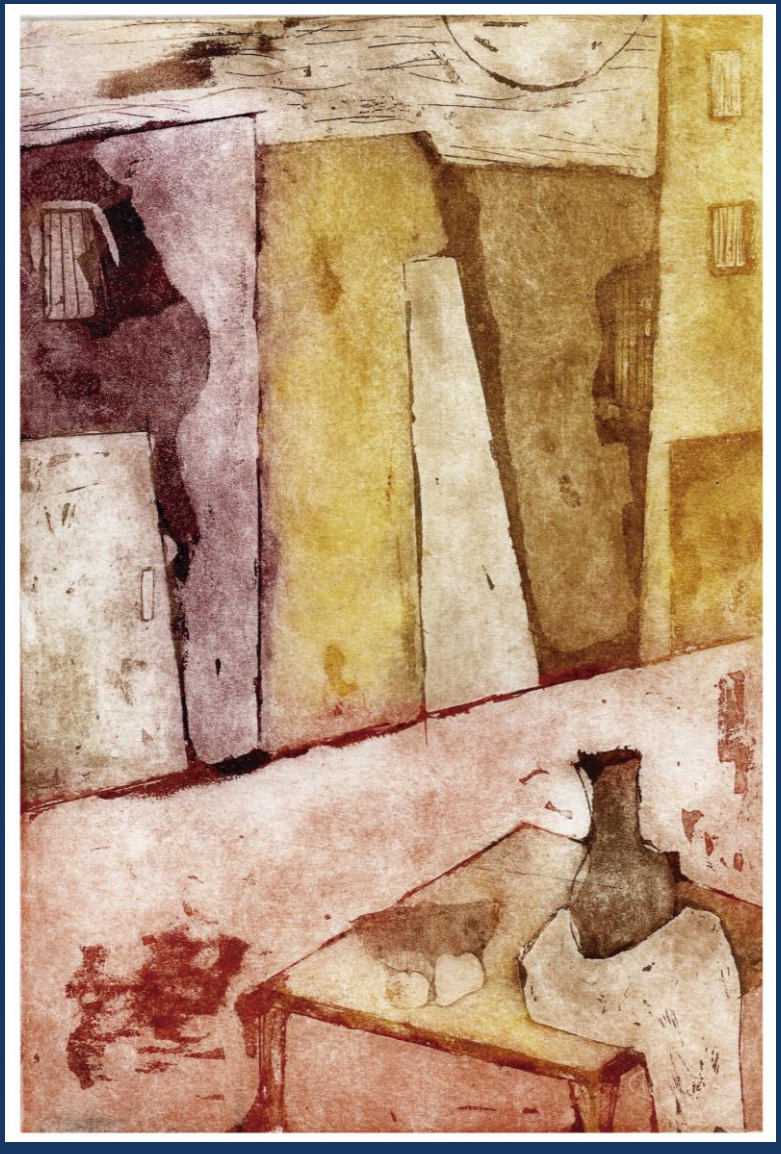

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La Tapa (Ver pág. 4)
Atardecer en la tarde
Antonella Ricagni

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REUNIÓN ANUAL DE SOCIEDADES DE BIOCIENCIA 2019

LXIV Reunión Anual de la
Sociedad Argentina de Investigación Clínica (SAIC)

LI Reunión Anual de la
Asociación Argentina de Farmacología Experimental (SAFE)

XXI Reunión Anual de la
Sociedad Argentina de Biología (SAB)

XXXI Reunión Anual de la
Sociedad Argentina de Protozoología (SAP)

IX Reunión Anual de la
Asociación Argentina de Nanomedicinas
(NANOMED-ar)

VI Reunión Científica Regional de la Asociación Argentina de Ciencia y Tecnología de Animales de Laboratorio (AACyTAL)

con la participación de
The Histochemical Society

13 - 16 de noviembre de 2019
Hotel 13 de Julio - Mar del Plata

EDITORES RESPONSABLES

Dra. Mónica Costas
Dra. Gabriela Marino
Dr. Pablo Azurmendi

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ANNUAL MEETING OF BIOSCIENCE SOCIETIES 2019

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The Histochemical Society

November 13th – 16th, 2019
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CHIEF EDITORS

Dra. Mónica Costas
Dra. Gabriela Marino
Dr. Pablo Azurmendi

IQUIBICEN (UBA-CONICET). FACULTAD DE CIENCIAS EXACTAS Y NATURALES UBA. (1); HOSPITAL NACIONAL POSADAS (2); 4HOSPITAL SOR MARIA LUDOVICA (3); HOSPITAL DE NIÑOS "RICARDO GUTIERREZ" (4)

Abstract/Resumen: The identification of new biomarkers or gene-expression profiles in childhood for acute lymphoblastic leukemia (ALL) could help predicting the disease outcome, improving the response to treatment and reducing therapy-related toxicity. For this purpose, we collected samples from three hospitals (H. Posadas, H. Gutierrez, H. Ludovica) by bone marrow aspiration and isolated total RNA from 37 pediatric patients with de-novo ALL at time of diagnosis to perform paired-end transcriptome analysis (RNAseq). Clinico-pathological characteristics and disease outcome were evaluated and recorded by trained oncohematologists. We performed differential gene expression analysis between early response to prednisone and occurrence of relapse/death (event free survival, EFS). We considered that genes were differentially expressed if the FDR adjusted p-value= 0.05. We performed multivariate analyses including, when necessary, date of transcriptome, gender and risk group as covariates. We found 22 significant differential expressed genes (DEG) for EFS: 12 (54.5 %) were protein-coding genes and 10 (45.5 %) were non-coding RNA genes. Among the protein-coding genes we found MYLK3 (log2FC= 3.9, adj.p= $1.2x10^{-9}$) and PTPRB (log2FC= 3.9, adj.p= $2.2x10^{-5}$). MYLK3 over-expression was associated with poor prognosis in bladder, liver, colon and gastric cancers. PTPs genes are reported as tumor suppressors but it was also associated with increased risk of colorectal metastasis. In the case of response to prednisone we found 40 DEG (75 % protein-coding). Among them we detected the ABCG2 gene (log2FC= 3.1, adj.p= $1.5x10^{-3}$), an ATP Binding protein that functions as a xenobiotic transporter and which may play a major role in multi-drug resistance. In acute myeloid leukemia it was associated with remission failure and shorter disease-free survival. In conclusion, the study of gene expression profiles at diagnosis might help improving risk stratification, therapy efficacy and reducing the occurrence of relapse and toxicity.

0254 - ANALYSIS OF THE CAPABILITY OF DOXORUBICIN DELIVERED FROM MAGNETIC NANOCARRIERS TO INDUCE CHANGES IN CELL DEATH OF COLORECTAL CANCER CELLS: A POTENTIAL ONCOLOGICAL THERAPY

María Julia MARTÍN (1) | Pamela AZCONA(2) | Verónica LASSALLE(2) | Claudia Rosana GENTILI(1)

INBIOSUR, DEPTO DE BIOLOGÍA, BIOQUÍMICA Y FARMACIA, UNIVERSIDAD NACIONAL DEL SUR (UNS)-CONICET (1); INQUISUR, DEPARTAMENTO DE QUÍMICA, UNIVERSIDAD NACIONAL DEL SUR (UNS)-CONICET (2)

Abstract/Resumen: Colorectal cancer (CRC) is a disease with a great probability of treatment failure, leading to a high mortality rate. For this reason, science focuses on the development of new therapeutic strategies, including the use of magnetic nanoparticles (MNP), which are being studied for biomedical applications related to CRC. In previous studies, we observed that MNP functionalized with folic acid loaded with Doxorubicin (DOX), named DOX-MAG, internalized into cells derived from human CRC, leading to a decrease of live cell number compared to free DOX treatment even at lower concentrations. This work aims to deepen studies regarding the cell death triggered by DOX-MAG, elucidating the associated molecular mechanisms. By light and fluorescent microscopy, we observed that DOX-MAG induced an increase in the size of the nuclei at 8 hours of exposure, suggesting intensive polyploidization with a dose of 1 µM, being this response absent in free drug conditions at the same dose. In addition, after 24 hours, MNP stimulated the emergence of elongated protrusions, being the drug found in the cytosol and the nucleus, while the free drug is completely located in the nucleus. By Western blot analysis, we observed an increment of cleaved PARP protein and the downregulation of the cell cycle inhibitor p21 after DOX-MAG uptake by the cells respect to free DOX conditions. These findings support the idea of faster cell death, with the apparition of apoptotic morphological features compared to free drug treatment. Summarizing, these results suggest that DOX-MAG markedly increased the effect of doxorubicin on human CRC models probably due to a different mode of action which may involve a dissimilar type of cell death. In this context, this contribution expands the knowledge of the behavior of nanocarriers in contact with in vitro models and proposes the DOX-MAG as potential theranostic agents for the improvement of cancer treatment.

Reproducción / Reproduction II

Chairs: Verónica Bosquiazzo | Vanina Da Ros

0054 - IMPACT OF MATERNAL OVERNUTRITION ON THE SPERM QUALITY OF MALE OFFSPRING IN RATS

Maria Agustina MENEGHINI | Rocío Alejandra GALARZA | **Alicia Graciela FALETTI**

CENTRO DE ESTUDIOS FARMACOLÓGICOS Y BOTÁNICOS (CEFYBO-CONICET), FACULTAD DE MEDICINA, UBA

Abstract/Resumen: Maternal overnutrition may induce multiple pathologies in both mother and offspring. The risk of these diseases has a direct relation to the degree of overweight or severity of maternal obesity. The aim of the present work was to study the effect of maternal overnutrition, particularly with high fat content, on the sperm quality of the male offspring. To this end, male offspring from rats fed standard (SD) or cafeteria (CD) diet were used. Considering the overweight of the CD rats when they became pregnant (day 0) and to relate the effects observed in the offspring to the different degree of maternal overweight, offspring from CD (OCD) rats were divided into two groups: offspring from rats with 25 % and 35 % overweight (OCD25 and OCD35, respectively). Offspring were euthanized at 60 days of age. Weight gain, preputial separation, sperm count, sperm motility, sperm capacitation by acrosomal reaction, and the presence of the reactive oxygen species (ROS) by flow cytometry in the germ cells, using a fluorescent probe (2',7'-dichlorofluorescein diacetate), were examined. Compared with OSD and expressed as percentage, both OCD groups showed an increase in the weight gain (13-33, $p<0.001$), decrease in the sperm count (33-50, $p<0.05$) and sperm motility (15-31, $p<0.01$). Likewise, OCD35 exhibited delayed puberty, expressed as days (42.8 ± 0.3, $p<0.01$), lower number of acrosome-reacted sperm, expressed as percentage (47 ± 7, $p<0.01$), and higher fluorescein intensity, expressed as relative units (9 ± 2, $p<0.001$), compared with OSD group (41.0 ± 0.2, 71 ± 3; 2.3 ± 0.3; respectively). These results suggest that the maternal overnutrition, particularly with high fat content, throughout the intrauterine life and lactation, severely affects the quality of sperm, likely leading a subfertility condition.

0062 - MTORC1 REGULATION OF GLYCOLYTIC METABOLISM IN PROLIFERATING SERTOLI CELLS (SC)

Cecilia Lucía CENTOLA | Agostina GORGA | Gustavo Marcelo RINDONE | María Del Carmen CAMBEROS | Eliana Herminia PELLIZZARI | María Fernanda RIERA | Silvina Beatriz MERONI | María Noel GALARDO

CENTRO DE INVESTIGACIONES ENDOCRINOLÓGICAS "DR. CÉSAR BERGADÁ" (CEDIE)-CONICET

Abstract/Resumen: The final number of SC reached during the proliferative periods determines sperm production capacity in adulthood. It is well known that FSH is the major SC mitogen exerting its action by activation of PI3K/Akt/mTORC1 dependent