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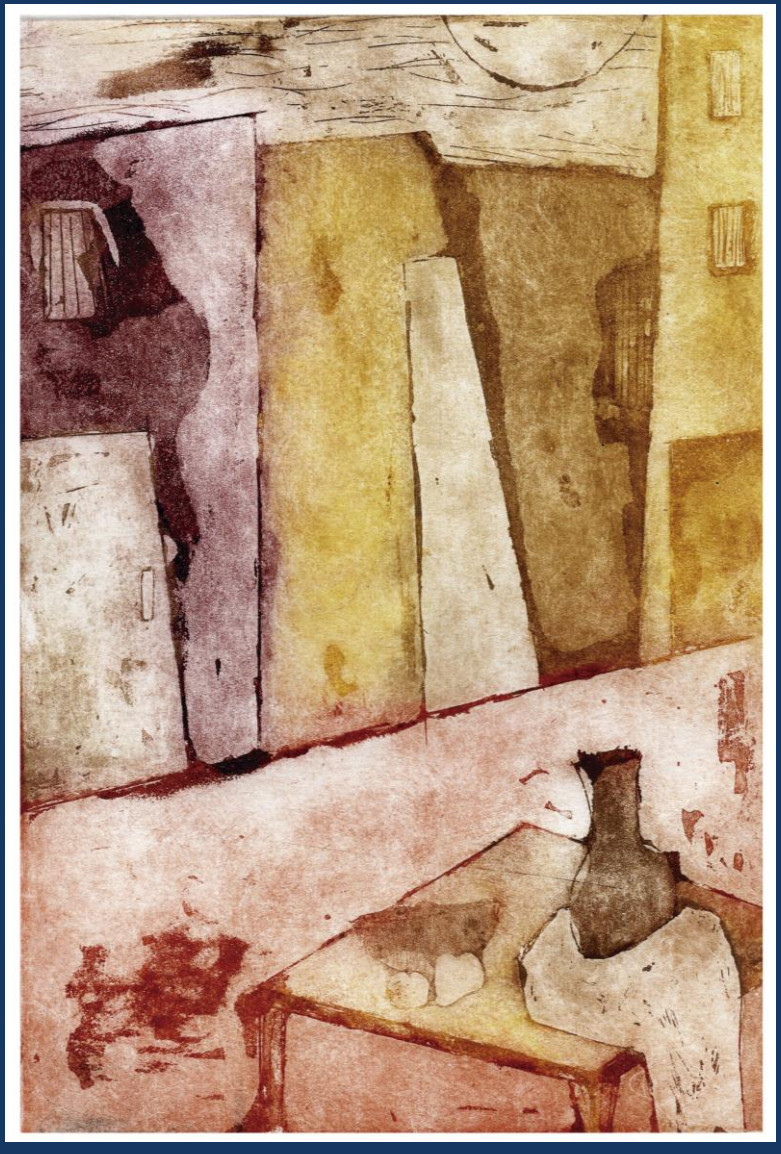
medicina

BUENOS AIRES VOL. 79 Supl. IV - 2019

80° Aniversario



MEDICINA

Volumen 79, Supl. IV, págs. 1-338

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BUENOS AIRES, VOL. 79 Supl. IV - 2019

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

MEDICINA (Buenos Aires) – Revista bimestral – ISSN 0025-7680 (Impresa) – ISSN 1669-9106 (En línea)

REVISTA BIMESTRAL
Registro de la Propiedad Intelectual N° 02683675
Personería Jurídica N° C-7497
Publicación de la Fundación Revista Medicina (Buenos Aires)
Propietario de la publicación: Fundación Revista Medicina
Queda hecho el depósito que establece la Ley 11723

Publicada con el apoyo del Ministerio de Ciencia, Tecnología e Innovación Productiva.
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Vol. 79, Supl. IV, Noviembre 2019

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BUENOS AIRES, VOL 79 Supl. IV - 2019

REUNIÓN ANUAL DE SOCIEDADES DE BIOCIENCIA 2019

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LI Reunión Anual de la
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XXI Reunión Anual de la
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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

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ANNUAL MEETING OF BIOSCIENCE SOCIETIES 2019

LXIV Annual Meeting of
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Asociación Argentina de Nanomedicinas
(NANOMED-ar)

VI Regional Scientific Meeting of Asociación Argentina de Ciencia y Tecnología de Animales de Laboratorio (AACyTAL)

with the participation of
The Histochemical Society

November 13th – 16th, 2019
Hotel 13 de Julio - Mar del Plata

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LA TAPA

Antonella Ricagni. **Atardecer en la calle**

Técnica: Aguatinta /aguafuerte. Año 2011. Medidas: 21 x 29 cm. Gentileza del autor.

Antonella Ricagni es Licenciada en Artes Visuales, con orientación en Grabado. Ha ejercido la docencia en Artes Plásticas en el nivel primario. Trabajó en varios museos como orientadora de sala y tallerista. Es escenógrafa egresada de la Escuela Metropolitana de Arte Dramático (EMAD). Ha realizado una residencia artística en México especializada en Xilografía.

Actualmente es docente en la materia Ilustración, en la carrera de Diseño Gráfico en la Facultad de Arquitectura, Diseño y Urbanismo, Universidad de Buenos Aires, y en Plástica y Tecnología en varias instituciones educativas en la ciudad de Buenos Aires.

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LA COLABORACIÓN Y APORTE DE LAS SIGUIENTES INSTITUCIONES Y PERSONAS:

-Laboratorio Montpellier por su contribución con los bolsos, lapiceras y anotadores para los asistentes de la Reunión Anual de Biosociedades 2019

- Fundación Argentina de Nanotecnología (FAN) por su contribución al premio al "Mejor Trabajo en modalidad Poster" en las sesiones de Nanomedicina
- Fundación Gador por su contribución al premio "Mejor trabajo sobre necesidades médicas insatisfechas" de la SAIC
-**Fundación Honorio Bigand** por su contribución a la organización general de la Reunión conjunta, por la donación para ayuda financiera a los participantes, así como a los premios al "Investigador Joven"
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- **Fundación Lucio Cherny** por su contribución al premio "Lucio Cherny" en temas multidisciplinarios de la SAIC
- **Sinergium Biotech** por la contribución realizada a la financiación para asistencia de participantes
- ***Universities Federation for Animal Welfare (UFAW)*** por la colaboración en la confección de *workshops* con AACYTAL
- *The Company of Biologists* (COB) por su contribución a la organización general de la Reunión conjunta
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Y LA CONTRIBUCIÓN DE LAS SIGUIENTES EMPRESAS:

AGRICULTURAL EXPORT, ALESCO BRASIL, ALLSCIENCE L.L.C., APBIOTECH, BIO – OPTIC S.R.L., BIODYNAMICS S.R.L., ETC INTERNACIONAL S.A., GADOR S.A., Grupo INBIO, LAB DIET, LOBOV Y CIA S. A.C.E.I., MICROLAT S.R.L., MIGLORE LACLAUSTRA S.R.L., MONTPELLIER S.A., SARTORIUS ARGENTINA S.A., TECNOLAB S.A. y THERMOFISHER SCIENTIFIC.

The increased proliferation and IL-6 production induced by TPO+LPS or Pam were suppressed by TLR2/4 or IL-6 neutralizing antibodies as well as by PI3K/AKT and NF-kB inhibitors (n= 3-5, $p<0.05$). Additionally, increased proPLT and PLT production were associated with enhanced nuclear translocation of NF-E2. Finally, the supernatants of CD34+ cells stimulated with TPO+LPS induced CFU-M colonies. Our data suggest that the activation of TLR2 and TLR4 in CD34+ cells and MK in the presence of TPO might contribute to warrant PLT provision during infection episodes by an autocrine IL-6 loop triggered by PI3K/NF-kB axes.

0668 - FURTHER STUDIES ON THE PATHOGENIC MECHANISMS LEADING TO THROMBOCYTOPENIA IN SYSTEMIC LUPUS ERYTHEMATOSUS

Constanza BARONI PIETTO (1) | Paola R. LEV(1) | Ana C. GLEMBOSTKY(1) | Graciela GOMEZ(2) | Victoria COLLADO(2) | Cecilia PISONI(3) | Ramiro GOMEZ(4) | Gabriela FLORES(5) | Paula G. HELLER(1) | Nora P. GOETTE(6) | Rosana F. MARTA(1)

DEPARTAMENTO DE HEMATOLOGIA EXPERIMENTAL, INSTITUTO DE INVESTIGACIONES MEDICAS (IDIM-CONICET) (1); DEPARTAMENTO DE REUMATOLOGIA, INSTITUTO DE INSVESTIGACIONES MEDICAS A.LANARI, UBA (2); DEPARTAMENTO DE REUMATOLOGIA, CENTRO DE EDUCACION MEDICA E INVESTIGACION CLINICA (CEMIC) (3); DEPARTAMENTO DE REUMATOLOGIA, HOSPITAL DE CLINICAS "JOSE DE SAN MATRIN", UBA (4); DEPARTAMENTO DE HEMATOLOGIA, HOSPITAL GRAL. DE AGUDOS CARLOS DURAND (5); DEPARTAMENTO DE HEMATOLOGIA EXPERIMENTAL, INSTITUTO DE INVESTIGACIONES MEDICAS A.LANARI, UBA (6)

Abstract/Resumen: We previously demonstrated increased platelet apoptosis and decreased proplatelet formation (PPF) as contributing causes of thrombocytopenia in patients with systemic lupus erythematosus (SLE). Here, we broaden the study evaluating platelet desialylation and megakaryopoiesis in the presence of SLE plasma. Twenty-five SLE patients, healthy controls and healthy mothers from whom umbilical cord blood was obtained, signed the informed consent. Desialylation of normal platelets was observed in the presence of 67 % SLE samples as assessed by Ricinus communis agglutinin I and peanut agglutinin binding (flow cytometry). Although not statistically significant, desialylation was more frequent in thrombocytopenic than non thrombocytopenic patients (77 vs. 50 %). Fifty five % of SLE patients inducing desialylation also showed increased apoptosis and/or activation. To evaluate the effect of SLE plasma on megakaryopoiesis, normal CD34+ hematopoietic progenitors from cord blood were incubated with 10% SLE or control plasma for 12 days. The number of CD61+/CD42+ cells evaluated by flow cytometry was higher in the presence of SLE than control plasma (Mann-Whitney test, $p<0.05$). An increase in megakaryopoiesis and a decrease in PPF was concomitantly observed in the presence of two SLE patient samples with normal platelet count, suggesting that the increase in megakaryocyte production could counterbalance the impaired platelet production. Our results suggest that platelet clearance due to apoptosis and desialylation as well as inhibition of platelet production due to impaired thrombopoiesis could be relevant mechanisms contributing to thrombocytopenia in SLE. On the contrary, increased megakaryopoiesis could help to maintain normal platelet count in spite of deteriorated thrombopoiesis in some SLE patients.

0702 - DIFFERENCES IN PLATELET SIZE ACCORDING TO THE TYPE OF TREATMENT IN MYELOPROLIFERATIVE NEOPLASMS: THEIR EFFECT ON PROPLATELET MORPHOLOGY.

Adela Soledad CELLUCCI (1) | Cecilia Paola MARIN OYARZÚN(2) | Ana Claudia GLEMBOTSKY(2) | Nora Paula GOETTE(1) | Paola Rosana LEV(2) | Matias GRODZIELSKI(2) | Maria Constanza BARONI PIETTO(2) | Paula Graciela HELLER(2) | Rosana Fernanda MARTA(2)

INSTITUTO DE INVESTIGACIONES MÉDICAS ALFREDO LANARI - UNIVERSIDAD DE BUENOS AIRES (1); DEPARTAMENTO DE HEMATOLOGIA EXPERIMENTAL, INSTITUTO DE INVESTIGACIONES MEDICAS (IDIM-CONICET) (2)

Abstract/Resumen: Large platelets are more reactive and associated to thrombosis in some pathological conditions. Previously, we demonstrated increased maximum platelet diameter in patients with Myeloproliferative neoplasms (MPN) treated with anagrelide (ANA), a-interferon (aIFN), or ruxolitinib (Ruxo), while decreased in those with hydroxyurea (HU). Here, we extended the study to 75 MPN patients. All subjects signed the informed consent. Measurements were performed with a software on pictures taken from May Grunwald Giemsa-stained blood smears. In this extended population, we confirmed our previous results and observed that platelets were larger in patients with JAK2V617F mutation than CalR+, both in untreated and HU treated patients, although statistical differences were reached only in the latter group (Mann Whitney test, $p<0.05$). To investigate if these drugs influence platelet size during proplatelet formation (PPF), normal CD34+ hematopoietic progenitors isolated from umbilical cord blood were cultured to obtain mature MKs. HU was added at day 5, during proliferation, while ANA, aIFN and Ruxo were added at day 12 when MKs reach maturity. At day 15 samples were fixed, permeabilized and stained with anti-tubulin-FITC to study proplatelet morphology. Using an immunoflourescent microscopy, pictures were taken and the size of tips and swellings along PPs was calculated. All drugs were tested at three different concentrations and at least in three independent experiments. ANA and aIFN induced a dose-dependent increase in tips and swelling size (Repeated measures ANOVA summary, ANA vs. control, p= 0.0135; aIFN vs. control, p= 0.0464) while Ruxo and HU did not exert morphological changes in PPF. Our results demonstrate that ANA and aIFN have a direct effect on proplatelet microtubular structure. The decrease in platelet size in patients treated with HU vs ANA and JAK2+ vs CalR+ could contribute to the lower incidence of thrombosis observed in HU treated and CalR+ patients.

0704 - POTENCIAL BENEFIT OF ERYTHROPOIETIN TO PREVENT IRON INDUCED CARDIOVASCULAR DESEASE

María Florencia FERNÁNDEZ DELIAS | Marta ROQUE

INBIOSUR, DEPARTAMENTO DE BIOLOGÍA, BIOQUÍMICA Y FARMACIA, UNIVERSIDAD NACIONAL DEL SUR (UNS)-CONIC

Abstract/Resumen: The prevalence of iron overload cardiomyopathy is increasing. There is growing evidence that high iron levels are a risk factor for cardiovascular disease because can cause constriction of blood vessels.The aim was to study the erythropoietin (EPO) role to prevent iron induced cardiovascular disease studying key importer proteins in the heart in an animal model of iron overload and EPO. CF1 mice (25 ± 5 g; 3 months) were divided into groups (n= 4/group): 1) Iron-adequate (IA); 2) Iron-overload (IO) (iron saccharate; days 0, 4, 8, and 12 i.p.; 1,800 mg/kg); 3) EPO (days 17, 18, and 19) i.p.; 20,000 UI/kg); 4) Iron-overload+EPO (IO+EPO). Immunohistochemistry: anti-DMT1 (divalent metal transporter1) and ZIP14 (Zrt-Irt-like Protein14). Perl´s staining. Iron levels were measured by FeRcolor. The Protocol was approved by the CICUAE, UNS. Heart DMT1 expression was evident in IA and EPO groups and it was scarce in IO and IO+EPO conditions. However heart ZIP14 expression was evident in all conditions demonstrating that it´s expression not depends of the "iron signal". The decrease in the DMT1 expression in IO state would suggest a protective mechanism against iron excess in heart tissue, being the "iron signal" the predominant signal to decrease the biometal uptake. Iron levels in heart shows significant increase in IO respect to IA condition. Interestingly, the iron levels in IO+EPO were significantly decreased respect to IO. Consequently, abundant hemosiderin was observed in IO condition and it was scarce in IO+EPO group. Hemosiderin was absent in IA and EPO conditions. Our data showed that Iron uptake in IO would not depend on the expression of DMT1 either

ZIP14. Thus, we can conclude that erythropoietin the "EPO signal" in high iron levels may have a direct positive effect on the heart. In conclusion, the interplay between EPO and key proteins of the iron cycle, such as DMT1 and ZIP14 may help to better understand the mechanisms involved in iron and erythropoiesis regulation in heart tissue.

0705 - SELECTIVE RESPONSE TO IRON AND EPO SIGNALS OF IRON CYCLE PROTEINS IN A MOUSE MODEL

María Florencia FERNÁNDEZ DELIAS | Marta ROQUE

INBIOSUR, DEPARTAMENTO DE BIOLOGÍA, BIOQUÍMICA Y FARMACIA, UNIVERSIDAD NACIONAL DEL SUR (UNS)-CONIC

Abstract/Resumen: The Erythropoietin (EPO) is associated with iron mobilization.The aim was to analyze the regulatory relationship between iron and EPO studying iron key proteins in several tissues in an animal model of iron overload and EPO. CF1 mice divided into groups (n= 4/group): 1) Iron-adequate (IA); 2) Iron-overload (IO) (iron saccharate; days 0, 4, 8, and 12 i.p. ; 1,800 mg/kg) ; 3) EPO (days 17, 18, and 19) i.p. ; 20,000 UI/kg); 4) Iron overload+EPO (IO+EPO). Immunohistochemistry: anti-DMT1 (divalent metal transporter1) and ZIP14 (Zrt-Irt-like Protein14). Perl´s staining. Iron levels: Wiener kit. The Protocol was approved by CICUAE-UNS. Our data demostrated that the protective action of EPO against IO was selective in several tissues responding to different signals as follows. In lung: both DMT1 and ZIP 14 response to "EPO signal". Interestingly was observed that DMT1 localization in bronchial cells was changed being cytoplasmic in IA/IO+EPO/EPO, while it was localized in membrane cell and apical zone in IO condition. ZIP14 expression was dowregulated by "EPO signal" in bronchial cells. In spleen: both importers were downregulated by "EPO signal". Conversely, hepatic tissue responds to iron signal. Hepatic DMT1 and ZIP14 were dowregulated and upregulated, respectively. On contrary,in pancreas a selective importers response to "iron/EPO signal" was observed. In fact, DMT1 expression in Langerhans islets was downregulated by iron signal, however in acini ZIP14 was downregulated by "EPO signal". In all tissues Iron level was significant higher in the IO respect to IA and a significant decrease in IO+EPO respect to IO. The protective action of "EPO signal" against IO in all studied tissues could be explain by the reduced iron uptake in spleen, lung and pancreas. Nevertheless, the prevalence of the "iron signal" in liver may be explained by the increased hepatic iron uptake through ZIP14, thus reducing iron systemic level. Understanding the relations between these proteins will contribute to extend our knowledge in the field of iron and erythropoiesis.

0754 - EVALUATION OF TIME IN THERAPEUTIC RANGE IN ANTICOAGULATED PATIENTS WITH NON-VALVULAR ATRIAL FIBRILLATION IN THE HOSPITAL ESCUELA "EVA PERÓN" FROM GRANADERO BAIGORRIA

Emiliano GALLO (1) | Jorgelina KARANTZIAS(1) | Carina OCAMPO(1) | Marcelo CICAO;(2) | Virginia SIFFREDI(3) | Carlos Daniel Alberto DE LA VEGA ELENA(3)

ÁREA DE HEMATOLOGÍA DEL HEEP (1); SERVICIO DE CARDIOLOGÍA DEL HEEP (2); CARRERA DE ESPECIALIZACIÓN EN HEMATOLOGÍA. IUNIR. (3)

Abstract/Resumen: Patients with atrial fibrillation have a significant increase in the risk of ischemic and thromboembolic events. Oral anticoagulation reduces the risk of stroke. The efficacy of antagonists of vitamin K in this group of patients depends on tight control of anticoagulation in a therapeutic target range. The use of time in therapeutic range (TTR) is proposed as a quality overall indicator of anticoagulation therapy. Recent publications suggest that TTR values of at least 60 % are considered as optimal control. The aim of this study was to evaluate the TTR in anticoagulated patients with acenocoumarol with non-valvular atrial fibrillation attending the Area of haematology of the HEEP and to compare with those reported in the international literature. We classified them according to age, gender, cardioembolic risk and TTR. The TTRs were estimated annually for the period between March 1, 2014 to February 28, 2018 by two methods, the Rosendaal method (reference) and other simpler (TTR ratio). We collected and analyzed data from patients who met the inclusion criteria for the period 2014/2015 (n= 11), 2015/2016 (n= 26), 2016/2017 (n= 28) and 2017/2018 (n= 39). The average age was 68.2 years. The TTR average values calculated by the Rosendaal method for the periods 2014/2015, 2015/2016, 2016/2017 and 2017/2018 were 61.49; 56.12; 58.93 and 61.83 % respectively. The TTRs calculated by the Rosendaal method in the studied population were similar to that reported in the national and international literature. There was a poor linear correlation when comparing Rosendaal method against the TTR ratio method (r= 0,836). There were no significant differences in TTR controls according to age or cardioembolic risk.

Oncología/ Oncology V

Chairs: María Giselle Peters | Soledad Porte Alcon

0304 - INHIBITION OF NITRIC OXIDE PRODUCTION WITH L-NAME REDUCES THE NUMBER OF TREG CELLS AND IMPROVES THE IMMUNE CYTOTOXICITY IN BLADDER TUMORS

Belén AMATO | Denise BELGOROSKY | Lautaro Nahuel PIRICH | Eduardo SANDES | Yanina Verónica LANGLE | Ana Maria EIJAN

INSTITUTO DE ONCOLOGÍA ANGEL H. ROFFO

Abstract/Resumen: Bladder cancer (BC) is a common malignancy of male urogenital tract. Tumors can be classified according to their invasion degree into non-invasive (NMI) and muscle invasive (MI). It has been showed that the constitutive expression of the inducible nitric oxide synthases (iNOS), producer of high levels of nitric oxide (NO), is a poor prognosis marker in human BC, associated with invasion and early recurrence. Previously, using the NMI murine BC model MB49 that express iNOS, it was demonstrated that the inhibition of NO with L-NAME reduced the immunosuppression and increased the cytotoxicity in tumor bearing mice (TBM). The aim of this study was to evaluate the immune cell profile and the anti-tumor specific cytotoxicity in the MI murine BC model using the MB49-I cell line that express higher iNOS than MB49 tumors. C57BL/6J mice were inoculated with MB49 or MB49-I cells. Spleen CD8+, NK and Treg were evaluated by flow cytometry. In vitro specific cytotoxicity was evaluated by co-culture of splenocytes from TBM and MB49 or MB49-I cell lines. MB49-I TBM showed a decrease in spleen CD8+ and NK cells ($p<0.05$) and an increase in Treg compared to normal mice ($p<0.05$), suggesting a tumor systemic immunosuppression. L-NAME treatment (0.5 g/L in drinking water) increased CD8+ and NK cells in MB49 ($p<0.05$) but not in MB49-I TBM. However, L-NAME was able to reduce spleen Treg in both MB49 and MB49-I TBM ($p<0.05$). L-NAME treatment also increased spleen specific cytotoxic activity against tumor cells in MB49 and MB49-I TBM compared to normal mice and untreated TBM ($p<0.01$ and $p<0.05$, respectively). Our results suggest that the use of L-NAME, at a concentration of 0.5 g/L, increases the cytotoxic activity of MB49 and MB49-I TBM against tumor cells, at least, by a reduction in Treg population.

0313 - USE OF LAB ON A CHIP (LOC) MICRODEVICES FOR STUDYING CANCER STEM CELLS. THE CHEMOTHERAPY RESPONSE IN AN INVASIVE BLADDER CANCER MODEL.