2017

medicina

BUENOS AIRES VOL. 77 Supl. I - 2017

MEDICINA

Volumen 77, Supl. I, págs. 1-620

medicina

BUENOS AIRES, VOL. 77 Supl. I - 2017

La Tapa (Ver p. IV)
Imagen ígnea, 1996.
María Esther Gené

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

REVISTA BIMESTRAL
Registro de la Propiedad Intelectual N° 5324261
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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Incluida en el Núcleo Básico de Revistas Científicas Argentinas del CONICET.

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Tel. 5287-3827 Int. 73919 y 4523-6619
e-mail: revmedbuenosaires@gmail.com – http//: www.medicinabuenosaires.com

Vol. 77, N° 5, Noviembre 2017

Edición realizada por
GRAFICA TADDEO – Charrúa 3480 – Buenos Aires – Tel: 4918.6300 l 4918.1675 l 4918.0482
e-mail: ctp@graficataddeo.com.ar – www.graficataddeo.com.ar

cells. This signaling mechanism may be essential in the events that trigger cyst formation in the kidney, and the onset of ADPKD.

Keywords: calcium, primary cilium, length

(132) **EFFECT OF FE SUPPEMENTATION DURING THE DEVELOPMENT OF THE ANTARCTIC DIATOM *FRAGILARIA SP***

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The aim of this work was to evaluate the effect of moderate Fe concentrations on the nitrosative metabolism in cultures of the diatom *Fragilaria sp* (from natural populations of the Antarctica) grown in f-2 media supplemented with either 0.3 (control) or 50 μMFe-EDTA (1:1). The growth was evaluated, over 15-20 days at 4ºC under 12 h light-dark cycle, by spectrophotometry and by cellular counting, the total intracellular Fe content by spectrophotometry, labile iron pool (LIP) by spectrofluorometry, nitrite-dependent nitric oxide (NO) generation by Electro Paramagnetic Resonance, and nitration of total protein by Western Blot. The supplementation with 50 μM Fe increased the total Fe content by 22-fold ($p \leq 0.01$) and the LIP by 2.3-fold ($p \leq 0.1$), as compared to values in control cultures in exponential phase of development (Exp). However, Fe supplementation from 100 to 500 μM Fe increased linearly the LIP content (m= 0,0155% $R^2 = 0.835$) in Exp. The growth rate of the cultures supplemented with 50 μM Fe in Exp was increased by 3-fold, as compared to growth in control cultures ($p \leq 0.05$). The total cellular protein nitration in cultures exposed to 50 μM Fe in lag phase of development (Lag) was slightly increased (1.3-fold) respect to values in control cultures ($p \leq 0.1$). Supplementation with 50 μM Fe produced a significant reduction (7.9-fold) in the nitrite-dependent NO generation rate in Lag, as compared to the values in control cultures ($p \leq 0.01$). These results suggested that increases in Fe in the culture, as those seen in the natural habitat, could be appropriately control by endogenous mechanisms avoiding drastic increases in LIP. However, presumable due to the Fe capacity of NO chelation, associated to Fe-dependent ability of catalyzing reactive species generation, the exposure to an Fe excess in the medium lead to alterations in the nitrosative metabolism in the cell in the lag phase of development when antioxidant pathways are still not fully operative.

(1063) **EFFECT OF LOW FREQUENCY MAGNETIC FIELDS ON THE VIABILITY OF MELANOMA CELLS (B16)**

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The relationship between weak low frequency ($B < 1$ mT, $f < 300$ Hz) magnetic fields (MFs) and cancer has been the subject of discussion for decades, not only in the scientific ambit, but also among the general public. Despite the controversies, and the interest in clarifying whether these fields constitute a health hazard, they are also of scientific interest for the opposite reason: the possibility of therapeutic uses in general and, in particular, for the treatment of cancer. Our objective in this work was to evaluate the effect of a combination of static (DC) and alternated (AC) MFs on the proliferation of the B16 melanoma cell line. The DC field was the one present inside our incubator (i.e., the geomagnetic field, distorted by the incubator metallic parts, $80 < B_{DC} < 140$ μT). The AC MF ($3 < B_{DC} < 20$ μT) was generated with a novel system of coils with a special geometry, and time-modulated with the "Thomas" pattern. Two 96-well plates, one control (only DC) and one treated (AC + DC), were seeded completely with 2,000 B16 cells/well. A 24 h-waiting period (for adherence of the cells) was followed by two daily exposures of 6 h, after which viability (for each separate well) was assessed by the MTT essay. Five such experiments were performed and analyzed by ANOVA and the t-test. Unlike what we expected, we did not find a significant difference due to the AC MF. Instead, we did find a significant difference ($p < 0.05$) of the viability (up to 21 %) for wells located in different regions inside the incubator. Careful measurements of the incubator's background MFs strongly suggested that viability was greater where MFs were stronger. Complementary experiments will be performed to confirm and expand these preliminary findings.

Keywords: Low frequency magnetic fields, magnetic fields and cancer, melanoma

(876) **PHYSICOCHEMICAL CHARACTERIZATION OF CHRONIC VENOUS ULCER EXUDATES BY FT-IR SPECTROSCOPY**

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Chronic venous leg ulcers (CVLU) is a complication of chronic venous insufficiency. According to clinical state, ulcer exudate presents differences in its relative composition (plasma ultrafiltrate, bacteria, inflammatory molecules and cells). To get a better diagnostic and treatment, it's crucial the identification of parameters involved in the clinical state as bacterial infection, inflammation, biofilm formation, protein and proteases, pH, etc. This work aims to present FT-IR spectroscopy as a novel diagnostic method for detect these components. For this, it was obtained FT-IR spectra from human CVLU: exudates, isolated planktonic and biofilm bacteria and different serum and plasma controls. In mid infrared region there are several frequency ranges that correspond to specific biomolecules bonds like lipids, proteins, nucleic acids and polysaccharides. After spectral pre-processing, percentage of the mentioned biomolecules and its ratios were calculated from respective spectral area. Also peaks from spectra 2nd derivative at the same frequency regions were identified. This clinical protocol was performed in patients from dermatology service from Avellaneda Hospital and approved by regional bioethical committee. Exudates showed repetitive and characteristic spectral profiles whose areas (dimensionless units) of lipids were (13.94±5.63), proteins (33.90±6.60), nucleic acids (2.61±1.16) and polysaccharides (19.91±11.01). Exudates from acute patients have higher lipid areas than exudates from chronic patients ($p<0.05$). When patients are infected with biofilm forming bacteria, an increase in the polysaccharides area was observed (proportional to bioburden). In addition, significant differences between controls and exudates areas were observed. There were numerous characteristic peaks of each window and each sample. Preliminary studies indicate that study of exudates by FTIR spectroscopy may have prognostic significance in CVLU.

Keywords: FTIR, Chronic ulcers, exudate.

(272) **PrfA*-EXPRESSING *Listeria monocytogenes* CELLS ARE MORE SENSITIVE TO PEDIOCIN-LIKE PEPTIDES DESPITE IMPAIRED EXPRESSION OF THE BACTERIOCIN RECEPTOR**

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Class IIa bacteriocins are antimicrobial peptides produced by Lactic Acid Bacteria. The accepted mechanism of action