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1.

COMPARISON OF TOXICITY OF ASSOCIATION OF NEW AND OLD NUCLEOSIDE HIV- POSITIVE PATIENTS

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Objetive: To evaluate the toxicity of 3TC/AZT vs TNF/ETB. Material and Methods: quantitative study, observational, prospective patients carried HIV (+) under HAART from 06-08 to 06-12. They followed two groups of patients were treated with the AZT/3TC group 1 and group 2 Tenofovir/Emtricitabine more NNRTI or IP. How to recruit responds to a non-probability sampling rate and sample within it discriminated against, with inclusion and exclusion criteria and signing of the IC. Categorical variables were analyzed using Chi-square and Wilcoxon rank. Significance level $\alpha = 0.05$. Results: The sample of 128 patients. The sample was limited to 86 patients. Group I 38. HB g/dl 14.02±0.31 basaline /14.14±0.29 12 months, Hto% 54.58±13.21 baseline/52.55±10.05, HDL mg/dl 37.38±4.94 basaline/ 35.13±1.68, basaline creatinine mg/dl 0.81±0.03 0.84±0.03. No significant differences were detected between laboratories. Group II 48. Hb g/dl 13.30±1.6495 basaline /13.52±1.527, Hto% 40.05±4.80 basaline/40.20±52.211, HDL mg/dl 34.83±60.628 basaline/38.05±46.44, basaline creatinine mg/dl 0.73±25.667 and 12 months 0.84±0.03. No significant differences were detected in Hb, Hto and creatinine, and if there are differences in HDL. Viral load decrease is statistically significant by Wilcoxon ($p < 0.0001$) for both groups. Bone densitometry in group 1 showed no abnormalities and group 2 osteopenia was found in 15 patients Conclusion: The effectiveness of both schemes in reducing viral load and the CD4 value were similar. Toxicity was found in group II in terms of altering lipids, precisely HDL, increased creatinine and osteopenia.

2.

RELATIONSHIP BETWEEN LIPID PROFILE AND URINARY N-ACETYL-BETA-D-GLUCOSAMINIDASE IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

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The first clinical evidence of diabetic nephropathy (DN) is the appearance of microalbuminuria (MA), an early marker of glomerular alteration. At the initial period of DN some reports also show a rise of urinary N-acetyl-beta-D-glucosaminidase (NAG), a sensitive indicator of renal tubular damage. Hyperlipidemia may contribute to the onset and progression of the renal disease. The aim of this study was to analyze the relationship between urinary NAG and lipid profile in type 2 diabetes mellitus (T2DM). Twelve T2DM patients with MA [urinary albumin excretion (UAE)=30-299 mg/g creatinine (Cr), age=64±13 years] and 19 T2DM patients with normoalbuminuria (NA, UAE<30 mg/g Cr, age=69±8 years) were compared. Total cholesterol (TC), C bound to high density lipoproteins (HDL-C) and triglycerides (TG) were quantified (mg/dl) by enzymatic methods in sera obtained after 12 hours fasting. First morning urines were collected and Cr was analyzed by a kinetic Jaffe method, and UAE and NAG activity (U/g Cr) were evaluated by immunoturbidimetric and colorimetric methods, respectively. NAG was higher in the MA group (20.52±17.67) than in the NA group (5.64±4.39), $p<0.005$. The MA group showed higher TC and TG than the NA group: TC=255±28 vs. 238±23, respectively, $p<0.05$;TG=306±88 vs. 240±92, respectively, $p<0.05$. No statistically significant differences were found in HDL-C. Urinary NAG was positively correlated with TC and TG both in the MA (TC: $r=0.479$ and TG: $r=0.552$, $p<0.05$) as in the NA group (TC: $r=0.514$ and TG: $r=0.573$, $p<0.01$). No association between UAE and TC or TG was found. Our data suggest that in T2DM patients dyslipidemia could contribute to the renal tubular damage evidenced from the MA stage of DN by increased urinary NAG.

3.

USE OF SMOOTHING SPLINE IN THE AGE-PERIOD-COHORT ANALYSIS FOR BREAST CANCER MORTALITY RATES IN ARGENTINA

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The main variables which determine the temporal factors of epidemiological events include the age of the subjects showing the event, the registration period and the cohort they belong to. The birth cohort is the difference between the event recording period and the subject age. This fact leads models that consider these variables simultaneously to face up to a problem of identification. In the literature, different alternatives called "age-period-cohort" (APC) models have been proposed. The aim of this paper is to analyze the trends related to the breast cancer mortality rates in Argentina within the period 1979-2008 using a "smoothing cohort model". Logarithm of the rates was considered for the model adjustment, and a two-stage estimator proposed in 2008 by Fu was obtained. In the first stage, age and period structure are fixed and cohort effect is smoothed. The second stage consists in the adjustment of APC model including an extra constraint derived from the first stage. The "smoothing cohort model" provides a simple, flexible and computationally-efficient structure resulting in a useful alternative approach to the APC analysis. The results found in our study are in agreement with the ones obtained using alternative methods which have also tried to solve the indetermination problem among variables. Increasing tendencies were detected through the age, constant over the periods and decreasing through the cohorts.

4.

ANTI-BETA 2 GLYCOPROTEIN 1 ANTIBODIES AND THEIR RELATION WITH RECURRENT ABORTION IN WOMEN WITH AUTOIMMUNE DISEASES

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Tiphospholipid antibodies (Ab) belong to a heterogeneous group of autoAb which mainly react with anionic phospholipids and with phospholipid-cofactor complexes. It has been postulated that Ab to protein cofactors are more specific for thrombosis than Ab only directed to phospholipids. A most studied cofactor is β2 glycoprotein 1 (β2GP1). Our aim was to analyze the relation between anti-β2GP1 Ab (a-β2GP1) and recurrent abortion in women with autoimmune diseases. Fifty-eight women with systemic lupus erythematosus and/or antiphospholipid syndrome (APS) were studied. They were divided into two groups: women with recurrent abortion (A; n= 25; number of abortions ≥ 2; age= 36 ± 7) and women with no history of abortion (NA; n= 33; with at least 2 previous normal pregnancies and without a background of obstetric complications; age 34 ± 10). Anti-cardiolipins Ab (ACA) and total a-β2GP1 Ab were assessed in both groups and by means of EIA methods. ACA was positive in 72% of group A and a-β2GP1 was positive in 32% of the same group. ACA was positive in 70% of group NA and a-β2GP1 was positive in 3% of the same group. Recurrent abortion was not significantly associated to the presence of ACA ($p=0.84$), but it was associated to the presence of a-β2GP1 ($p=0.003$). The probability of belonging to group A is 17.5 times higher when a-β2GP1 Ab are positive than when they are not. We conclude that a-β2GP1 Ab would be a better marker of group A. This finding stresses the utility of a-β2GP1 Ab, not only as regards its diagnostic usage, but also as a candidate marker of recurrent abortion in women with APS.

5.
COMPARATIVE STUDY OF ISOLATED *Gardnerella vaginalis* BETWEEN HEALTHY PATIENTS AND PATIENTS WITH BACTERIAL VAGINOSIS (BV)

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In the BV exists colonization by numerous anaerobic bacteria and it's considered a synergistic polymicrobial syndrome, intertwined to the presence of the *Gardnerella vaginalis* (Gv) that is capable of generating adhesive biofilm. We've studied the reproductive capacity of the biofilm, in 10 isolations of Gv from healthy patients along with 10 from patients with BV (infective), to measure it's virulence, we extracted samples from a women population between 15 and 50 years old. We prepared an inoculum of 1 x 10^8 UFC/ ml from each isolation. We inoculated 200 µl de brain heart infution with glucose at 1% in the different wells from a 96-well microplate and 50 µl of the Gv inoculum was planted in each, by quadruplicate, leaving one with broth as target. It was incubated for 24hs in anaerobic conditions at 37ºC, we added 200 µl of nutrients and we re-incubated in the same way for another 24hs. After we removed the planktonic bacteria we proceeded to wash with PBS. We dried and dyed with safranin, then we treated it with glacial acetic acid (33% v/v). It was read through dual spectrophotometry (450 – 620 nm). The test was repeated three times. A significant difference was detected in comparison between Gv isolations from both groups ($p<0,0001$), with considerably more production from the infective strains, which infers a greater virulence in the latter. Given the capability for biofilm production, the persistence of this microorganism is greatly enhanced, tending to produce chronic processes, enabling them to stay out of reach of antibiotic treatments.

6.
EFFECT OF A HIGH CALCIUM DIET ON THE FERTILITY OF FEMALE β RATS

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Pregnancy and lactation require to female mammals some major adaptations that involve nutritional, hormonal and metabolic changes in order to allow the pups development.
The aim of this study was to evaluate the effect of a high calcium diet on the fertility of female β rats.
To this end, 15 female β rats were fed either a high calcium (1,2 g/100g) (H: 8) or a normal calcium (0.5g/100g) (N: 7) diet since mating and until the moment the offspring was weaned. Both diets were prepared according to the American Institute of Nutrition recommendations.
Comparisons between groups were performed using Student's t test or squared chi test and differences were considered significant when $p<0.05$. Data are presented as mean ± standard deviation.
Results: mating time (ds): N: 27.50±2.33 vs H: 25.63±1.69 ($p>0.05$); percentage of female that weaned: N: 100% vs H: 75% ($p>0.05$); brute production of offspring: N: 7.43±4.57 vs H: 7.38±4.17 ($p>0.05$); net production of offspring: N: 7.00±4.40 vs H: 6.75±4.71 ($p>0.05$); survival coefficient: N: 0.94±0.03 vs H: 0.72±0.45 ($p>0.05$); fertility coefficient: N: 1.11±0.27 vs H: 1.13±0.65($p>0.05$).
The parameters related to fertility evaluated in the present work did not differ between groups. Probably the extra calcium in diet H was not successully absorbed.

7.
MOLECULAR CHARACTERIZATION OF *Xenopus* HEXOSAMINIDASE: FROM GENE TO STRUCTURAL POLYPEPTIDES

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Hexosaminidases (Hex) are present in vertebrate gametes. They are involved in sperm and egg binding, and polyspermy prevention among phylogenetically distant animals. Mammals Hex is constituted by two subunits (α and β) codified in different genes (*HEXA* and *HEXB*). Both subunits have high homology with each other, and differ essentially in the active site. These subunits give rise to three possible Hex isoforms: A (αβ), B (ββ), and S (αα). In previous studies we have analyzed the activity and immunolocalization of *X. laevis* egg Hex. However, no information was available regarding the molecular identity of Hex in amphibians. With this aim, we use high homology search and found one putative *hex* gene in *X. tropicalis* genome database. However, based in full-ORF transcript databases, two mRNA were found. Noteworthy, the transcripts differ in one exon, and as a consequence one of the transcripts codified an a subunit and the other one a β subunit. Posterior analysis suggested that they could be synthesized as alternative transcripts from the same *hex* gene founded in *X. tropicalis*. To analyze this hypothesis we performed a Southern blot assay. The results showed one band in treated genomic DNA from *X. laevis*, indicating that there is only one copy of *hex* in *X. laevis* genome. In summary, we present a *Xenopus hex* gene. Interestingly, α and β Hex subunits are synthesized by alternative transcripts in *Xenopus*. This finding denotes an evolutionary divergence with mammals where α and β subunits are synthesized from different genes.

8.
GENOTYPING OF ABO GLYCOSYLTRANSFERASES IN SEMEN

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The glycosyltranferases (GlycT) of blood groups A and B are responsible for the conversion of the H antigen in antigen A and B. The coding region of the ABO gene is organized into seven exons and was cloned and sequenced in 1990. The gene O differs from the gene A, in a base deletion, carrying a shift in the reading frame, resulting in a nonfunctional protein. The genes B and A differ in 7 nucleotides. The aim is to develop a modified PCR method to determine the ABO genotype in human spermatozoa quickly, simply and efficiently using only a program of amplification and without restriction enzymes. Genomic DNA was obtained from 26 semen samples in the Reproduction Laboratory. As a control, DNA from peripheral blood leukocytes of 15 individuals with phenotypes A, B, AB and O, serologically identified were used. Two sets of primers were designed for each sample. These allowed amplifying two different regions of the GlycT: Set I, amplifies exon 5 (distinguishing gene O from A or B) and Set II, amplifies exon 7 (distinguishing gene A from B). By comparing the bands of the PCR product, the individual genotype was determined. The results obtained by PCR correlated 100% with the phenotypes of analyzed samples. This strategy allows differentiate between homozygous and heterozygous individuals for the ABO system. This technique can be used to study semen stains in forensic medicine. In these situations it is vital to obtain quickly and safely results.

9.

EFFECT OF A HIGH FRUCTOSE DIET ON THE OBESITY OF MALE β RATS

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Consumption of refined carbohydrate and particularly fructose has increased significantly in recent years in parallel to the incidence of obesity, metabolic syndrome and nonalcoholic fatty liver disease.
The aim of this study was to evaluate the effect of a high fructose diet on the body and the abdominal fat depots weight of β rats.
Twelve 70 days old obese male β rats, were fed a control (C) diet or a fructose enriched one (F) for 90 days. Both diets were isolipidic and isocaloric and were prepared according to the American Institute of Nutrition Rodent Diets Recommendations.
Animals body weight was measured every other day. At the end of the experiment the animals were euthanized and retroperitoneal and perigonadal fat depots were removed and weighed.
Comparisons between groups were performed using Student's t test and differences were considered significant when $p<0.05$.
Data are presented as mean ± standard deviation.
Results: body weight gain (g): F: 240.6 ± 13.2 vs. C: 227.8 ± 10.5 ($p>0.05$); retroperitoneal fat pads relative weight: F: 4.27 ± 0.17 vs. C: 4.17 ± 0.23 (($p>0.05$); perigonadal fat pads relative weight: F: 3.01 ± 0.11 vs. C: 3.18 ± 0.11($p>0.05$).
In β rats, the consumption of F did not exacerbate the expression of their obese fenotype. The relevance of these results resides in the fact that this animal model would allow the metabolic and liver alterations caused by high fructose intake to be study dismissing the possibility that those alterations were due to the increase of the body fat mass.

10.

ANALYSIS OF OMEGA-3 CONSUMPTION IN UNIVERSITY STAFF

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Fatty acids omega-3 provides cardiovascular benefits such as the reduction of tryglicerides, which diminishes cholesterol. They prevent clots formation in the arteries by preventing platelet aggregation and they diminish arterial pressure. Objective: To compare the consumption of products as a natural source of omega-3 in university staff. Materials and methods: An anonymous and voluntary survey was conducted among professors, personnel and students from the School of Medicine. They were asked about the consumption of sea fish, nuts, almonds, chia, flax, lettuce, cucumber and spinach. These types of food were chosen for being a natural source of omega-3, being available at grocery stores and not being expensive. Results: 283 people between 18 and 65 years old, including, professors, personnel and students were surveyed. Among them, 200 were women (70.67%) and 83 were men (29.33%). Considering the age groups already explained and their genders, the following consumptions were obtained: Lettuce (59.71%), spinach (46.28%), sea fish (38.87%) and Nuts (34.97%) were chosen by women. However, men chose Lettuce (26.15%), sea fish (20.84%), spinach (16.26%) and Nuts (15.55%). Conclusions: In this work we could determine that men and women surveyed chose the same 4 products, but in different order, as main types of food as natural source of omega.3. It is important to highlight that the consumption of daily and available products was considered useful for the natural incorporation of omega-3.

11.

GASTRIC CITOPROTECTION INDUCED BY DAPOXETINE IN MALE RATS

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The concept of citoprotection is defined as a mechanism that uses the gastric mucosa cells to protect itself against different injuries. A citoprotector drug is that wich protects gastric mucosa against ethanol 96º (ETH) injury. Dapoxetine (DAP) is a serotonine inhibitor used in the treatment of premature ejaculation. Aim: is to evaluate the mechanism of gastric citoprotection against 96º ethanol in male rats. Material and method: To Spague-Dawley rats, group (n=7), weight 350± 25 gr, 24 hours-fasting, except of ad-libitum water, who they realized the followed experiences:1) Saline 2 ml, orogastric form. Time waited: 60 min; 2) 96% Ethanol (ETH)1 ml, orogastric form. Time waited: 20 min; 3) DAP, 60 mgr orogastric, 2 ml 60 min; 4) DAP 60 mgr, later ETH. When the time of experiments were through, all of the rats were killed carbon dioxide chamber. Laparotomy was realized, in addition of gastrectomy, gastric major curvature openning, tabulation of percentage of gastric macroscopic injury area measure with computer planimetry. And sections were selected for histologic and histophatologic studios. They were fixed with 10% Formol and colored with Hematoxilin-Eosin (H-E), PAS and Alcian Blue. T of Student and ANOVA system were used for statistic evaluation of the results. The solutions were exposed by X± DS, and $p < 0,05$ was considere as significative. Macroscopical results (%): 1) % 0.1 ±1.0; 2) % 35.5 ±5.5 ($p< 0.001$); 3) % 0.1 ±1.0; 4) 5.5 ±1.0 ($p <0.01$). Microscopy:The stomach of the group 2 rats showed necrotic areas in the surfice and depth, instead the group 4 showed mild detachment of the epithelial surfice with mild mucosa congestion. All these findings were corroborated with special stains by the presence or not of mucins in histological preparations. Conclusion:DAP showed a significative citoprotection action on the gastric mucosa against ethanol injury.

12.

THE FAMILY *Iridaceae* IN THE PROVINCE OF SANTA FE (ARGENTINA)

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The Family *Iridaceae* belongs to Class *Liliopsida* and is currently included in the Order *Asparagales*. It comprises 66 genera and about 2000 species inhabiting tropical and subtropical regions in both hemispheres. They are perennial herbs, geophytes, or swamp hemicriptopytes; rhizomes or bulbs can be small or robust. In Argentina 22 genera occur, of which only four appear in Santa Fe: *Calydorea* Herb., *Cypella* Herb., *Sisyrinchium* L. and *Herbertia* Sweet, all belonging to the subfamily *Iridioideae* Pax. This is an introduction to the *Iridaceae* taxonomy and its geographical distribution in Santa Fe, through bibliographical review, consultation of herbaria (SF, SI, and UNR), and field and lab work to confirm their identity. The genus *Calydorea* Herb. is represented only by *C. approximata* R.C. Foster, cited only in catalogs with no supporting voucher. The genus *Cypella* Herb. is represented by two species: *C. armosa* Ravenna and *C. herbertii* (Lindl.) Herb. subsp. *herbertii.* The genus *Herbertia* Sweet with a single species: *H. lahue* (Molina) Goldblatt subsp. *amoena* (Griseb.) Goldblatt, new record for the province. The most diverse genus is *Sisyrinchium* L., with nine taxa distributed in almost all departments: *S. arenarium* Poepp. subsp. *arenarium, S. chilense* Hook. subsp. *chilense*, *S. megapotamicum* Malme, *S. micranthum* Cav. subsp. *micranthum*, *S. minus* Engelm. & Gray subsp. *everrucosum* Ravenna, *S. minutiflorum* Klatt, *S. pachyrhizum* Baker subsp. *pachyrhizum*, *S. palmifolium* L. subsp. *fuscoviride* (Ravenna) Ravenna and *S. platense* I.M. Johnst. Taxonomic information, distribution map and illustrations are provided

13.

EFFECTOR MECHANISMS OF PHAGOCYTIC CELLS *IN VITRO* STIMULATED WITH LIVE AND HEAT-INACTIVATED *S. pyogenes*

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The *S. pyogenes*, the causative agent of several serious infections, triggers a significant immune response with the participation of various cell types.Tthe immune response of Polymorphonuclear (PMN) and mononuclear (MNs). cells of healthy subjects after stimulation with Live (LSPy) and inactivated *S. pyogenes* (Spi).was studied. A blood sample (25ml) from 48 healthy subjects and PMNs and MNs were separated by a Ficoll-Triyosom gradient. cells of healthy subjects after stimulation with Live (LSPy) and inactivated *S. pyogenes* (iSp). A blood sample (25ml) from 48 healthy subjects and PMNs and MNs were separated by a Ficoll-Triyosom gradient. The obtained cellular suspensions in RPMI (5.106cells/ml in each tube) were incubated with 5µl of Live (LSPy) or (iSp)& no stimulated (Basal). Tubes were incubated for 18 hs. at 37ºC. Then, culture supernatant was separated and stored a -30ºC to evaluate Nitrites (Griess Méthod), and TNFα levels by ELISA(R&D Systems) Respiratory Burst (RB) in PMNs and MNs, determinated by Flow Citometry (FACs Calibur) was expressed as R index which was significatively higher in the Live LSPy & iSp. stimulated cells . Nitrite Levels (0± E.E.) MNs + LSpv, iSp and Basal: 40,75±5,94; 57,85±8,79; 13,28±1,13 MNs Basal vs MNs LSpv P<0,001 MNs Basal vs MNs iSpv P<0,01; MNs L Spv vs MNs iSpy P= 2,907 ns. PMNs LSpv, iSpy stim Basal: 40,76±6,61; 38,44±6,11; 17,95±2,16. PMNs Basal vs PMNs LSpv P<0,05; PMNs i Spvs PMNs Basal P<0,05; PMNs iSp vs PMNs LSpv P>0,05 ns. Conclusions: RB, and TNF Nitrite levels were higher in the c.s of stimulated cells.

14.

***IN VITRO* STIMULATION OF MONONUCLEAR (MN) & POLIMORPHONUCLEAR (PMN) CELLS FROM TUBERCULOSISPATIENTS (TB) WITH ACTYNOMYCETALES**

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The effect of stimulation of various cells involved in the immunologic mechanisms that are triggered against tuberculosis with inactivated Actinomycetales bacteria was studied. The results of the *in vitro* cellstimulation would be later transferred to achieve a more effectivetherapy for TB patients. 9 untreated B (HIV-) patients and 12 controls, both sexes, 38 ± 13.5 years were studied. Respiratory burst (RB) of MN and PMN from peripheral blood and IL17 levels in cell culture supernatant (c.s) were evaluated. Cells were separated by F-Triyosom gradient and cells suspensions were stimulated with 5 µl of inactivate M.tuberculosis and 4µl of inactivated M. obuense, M. vaccae, Rhodo- coccus coprophilus, Tsukamurella inchonensis (40 µg/ml) and in 1tube The cells were stimulated with Mtbi and in other tube were no stimulated Basal). All tubes only incubated with RPMI for 18hs. Then Respiratory Burst of MN & PMN was assessed Flow Cytometry FACs Calibur) and MN & PMN c.s.s was separated to determine IL17 by ELISA (R&D) RB was espressed as Oxidative Index R. It was observed that R index and IL 17 levels (pgr/ml) in c.s. were higher in Tsukamurella inchonensis and M.vcacce stimulated PMN and MN cells compared with no stimulated cells. It can be concluded that inactivated Actinomycetales bacteria Tsukamurella inchonensis and M.vaccae are able to *in vitro* stimulate RB in PMN and MN cells from tuberculosis patients the IL17 production in c.s of MN and PMN cells.

15.

ANALYSIS OF LIPID PROFILE IN HIV (+) PATIENTS TRATED WITH DIFFERENT ANTIRRETROVIRALS OF HIGH EFFECTIVENESS. PHASE II

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The era of anti-retroviral treatment of high effectiveness (TAAE) began when proteases inhibitors were approved in 1996. The variability of lipid profile in HIV(+) patients with TAAE was analyzed. An observational study of 291 patients was carried out (from march/2008 to june/2012). Two treatment schemes with reverse transcriptase nucleoside inhibitors were developed. Patients' assignment: in Group I: zidovudine+lamivudine (AZT/3TC) 129 = T1: +efavirenz (EFV): 101, T2: +nevirapine (NVP): 28. In Group II: emtricitabine+tenofovir (FTN/TNF) 162 = T3: +EFV97; T4: +atazanavir+ritonavir, 42; T5: +ritonavir+fosamprnavir: 8 and T6: + NVP 5; T7: + lopinavir+ritonavir-LOP/RIT-, 10. Basal laboratory (lb) and post laboratory (lp), after 18 months of TAAE, were performed. A t-Student test was applied to compare means in continuous variables (α=0,05). Results: They were expressed in mg/dL as mean±standard deviation for each treatment. T1: Total Cholesterol–tCol (lb) 191±63; (lp) 210±61. HDL (lb) 37±11; (lp)40±7. LDL (lb) 132±35; (lp) 140±78. Triglycerides-TG (lb) 142±75; (lp)1605±86. T2: tCol (lb) 171±28; (lp) 185±30. HDL (lb) 35±12; (lp) 37±10. LDL (lb) 139±48; (lp) 113±7. TG (lb) 131±56; (lp) 107±32. T3: tCol (lb) 185±47; (lp) 201±50. HDL (lb) 38±31; (lp) 32±7. LDL (lb) 133±47; (lp) 130±51. TG (lb) 168±140; (lp) 174±125. T4: tCol (lb) 158±35; (lp) 173±30. HDL (lb) 32±8; (lp) 34±11. LDL (lb) 126±37; (lp) 108±29. TG (lb) 176±142; (lp) 237±325. T5: tCol (lb) 337±157; (lb) 213±90. HDL (lb) 28±5, (lp) 36±11. LDL (lb) 131±28; (lp) 280±75. TG (lb) 144±63; (lp) 135±64. T6: tCol (lb) 172±28; (lb) 184±30. HDL (lb) 34±11, (lp) 36±11. LDL (lb) 138±47; (lp) 113±7. TG (lb) 132±55; (lp) 106±31. T7: tCol (lb) 339±158; (lb) 214±91. HDL (lb) 29±6, (lp) 33±9. LDL (lb) 135±30; (lp) 285±77. TG (lb) 147±65; (lp) 138±66. When providing AZT/3TC+EFV (T1) a significant increase of HDL was observed (p=0,02); no differences were seen neither in other laboratory results nor other treatments (p>0.05).In T7, FTN/TNF+LOP/RIT statistical no significant increase of total cholesterol and triglycerides was observed. Conclusion: After 18 months of TAAE, the studied patients showed changes in their lipid profiles, in HDL, total cholesterol and triglycerides, especially in treatments 1 and 7.

16.

EFFECTS OF NITRITE ON ANTIOXIDANTS DEFENSES OF SHRIMP *Pleoticus muelleri* (CRUSTACEA, SOLENOCERIDAE)

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The shrimp *Pleoticus muelleri* is a commercially important species in Argentina and presents a great potential to aquaculture activity. Therefore, studies on the effects of the nitrogenous compounds present in the water are necessary, since it can affect the overall physiology and lead to increased mortality of organisms. An imbalance in the generation of free radicals is considered a physiological stress factor, so the measurement of total antioxidant capacity (AT) can be used to estimate the antioxidant defenses effects in these animals. The objectives of this study were to determine the median lethal concentration (LC50) to nitrite and to characterize their effects on total antioxidant defenses in the shrimp. Short-term LC50 toxicity tests were carried out at ten concentrations from 0 to 1500mg/l of nitrite. Free radical scavenging properties of hepatopancreas extracts of *P. muelleri* were evaluated by electron paramagnetic spin resonance spectrometry methods against the stable 1,1-diphenyl-2-picrylhydrazyl radical. The LC50 determined at 96hs was of 170,56mg/l. AT capacity was measured in individuals exposed to 100, 200, 400 and 500mg/l of nitrite. All treatments tested showed radical scavenging ability, but the percentage of decay with time was greater in shrimp exposed to concentrations of nitrite close to the LC50, showing higher antioxidant activity. However, in all cases significant differences respect of control were determined. From the results it can be concluded that of measurement of AT can be proposed as a biomarker of pollution by nitrites.

17.

SOYBEAN SEED TREATMENT WITH *Streptomyces* sp. AND LACTIC ACID BACTERIA FOR THE CONTROL OF SUDDEN DEATH SYNDROME IN GREENHOUSE

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Fusarium tucumaniae is the primary causal agent of Sudden Death Syndrome (SDS) of soybean *Glycine max* (L. Merr.) in Argentina, causing severe economic losses. Seed treatment with fungicides is not a common practice for controlling this disease. Seed treatment with biological control agents could be an important tool for an integrated disease management. In this study *F. tucumaniae* CCC132-2011 was inoculated by the layer method using infested sorghum grain (5g/pot). Five seeds of susceptible soybean cv. NA 4613RG (SG 92% CT 75%) previously treated with two potential biocontrol with proven activity *in vitro* (*Streptomyces* sp. C202 and *Lactobacillus buchneri* BAL7: 10^{11}cfu of each one /100g seeds), were sown in artificially infested pots. It was included a positive (infested) and an absolute control. The experiment was conducted in a greenhouse under a natural photoperiod at 25 ± 3ºC for 27 days with no water restriction. Treatment with C202, compared with the infested control, significantly reduced foliar disease severity (ANOVA and LSD test, $p<0.05$), the area under disease progress curve, and reduced root rot severity, decreasing the loss of its dry weight. *Streptomyces* sp. C202 had an antagonistic effect on *F. tucumaniae,* evidenced mainly by a delay in the onset of the disease. It showed the possibility of combining the use of this biocontrol with fungicides and constitutes a promisory tool for the development of a competitive and sustainable agriculture.

18.

ANALYSIS OF INFLUENCE IN A CROSSOVER DESIGN. AN APPLICATION TO ASSESS THE MOTOR SKILL IN PATIENTS WITH MULTIPLE SCLEROSIS

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Crossover designs are experiments in which the experimental units receive more than one treatment under different pre-established orders. Mixed models are useful for the analysis of crossover designs. These models are estimated using the maximum likelihood method, which is sensitive to atypical units. The influence analysis consists in the identification of units with excessive effect over inferences regarding parameters of the model. This paper aims to evaluate the influence of atypical units in the context of an experience in which 8 patients are stimulated by transcranial stimulation technique (tDCS), during 20 minutes, and a variant of it called "Placebo", during 30 seconds. The first group received in the first period tDCS and then Placebo; the second group received the treatments in inverse order. Each patient is measure at three different times. The response is modeled as a linear function of time using a spline model with random intercept. The likelihood distance (LD), used to evaluate the influence in general form, shows the patients 1 and 3 as potentially influential ($LD_{(1)}$=6.54; $LD_{(3)}$=5.45) and they exert influence over the point estimates of covariance parameters (larger values of Cook's D and MDFFIT statistics). The COVRATIO(è)=0.54 and $PRESS_{(3)}$=84.95 indicate that patient 3 affects the precision of covariance parameters and the fitted values of the entire dataset. Since the patients do not exert much influence on the fixed effects, their presence will not alter the hypothesis tests or confidence intervals for the same, so it be recommended not remove them from the dataset nor change the model.

19.

SATURATED FAT ACID EFFECTS IN DISMETABOLIC ANIMAL MODEL LIPIDIC METABOLISM

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At present there are numerous evidences that link obesity and diabetes with inflammatory processes. Dismetabolic animal model habitual diets is supplemented with grated coconut short and median chain (AGS) vegetable source, evaluating: glucolipidic profile adipose panicles and liver size. Male b rats (insulinresistant, obese with normotriglyceridemia) β (obese, diabetic and with hypertriglyceridemia) and Wistar (W) (eumetabolic) were fed from weaning (n: 5/group) with: habitual food: (BC), (bC) and (W), habitual food + AGS: (BS) and (bS). At 200 days, Gli_0 and $Gli_{120'}$ and triglyceridemia $Tg_{0,2,4 \text{ and } 6hs}$ (g/l), peritoneal macrophage counting and relative weight of adipose panicles and liver (g/biomass) were analyzed. ANOVA/ Bonferroni test (media±SEM). BS and bS shows higher adipose deposit [βS: 0.0994±0.005; bS: 0.0860±0.006; βC: 0.0544±0.001; bC: 0.0556±0.002; W: 0.0272±0.002] (p:0.0001), lower hepatomegaly [βS: 0.0414±0.001; bS: 0.0416±0.001; βC: 0.0502±0.001; bC: 0.0496±0.012; W:0.0380±0.002] (p:0.0001) and lower glycemia: $Gli_{120'}$ [βS: 1.91±0.14; bS: 1.34±0.07; βC: 2.31±0.06; bC: 1.76±0.06; W: 0.87±0.07] (p:0.0001). BS and bS postprandial lipemia have a higher reception possibly because of an adipose tissue accumulation. In both increase the inflammatory process even more in coincidence with a higher quantity of macrophages. Possibly, AGS different metabolization would result in their chain different length. These would be easily digested, absorbed and used and it is a possible explanation for lipo and glucotoxicity difference.

20.

VEGETABLE FAT ACIDS. INFLUENCE IN OBESE AND DIABETIC CELLULAR INMUNITY

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Today concept describes obesity as causing a light degree chronic inflammation, linking immunity with obesity, diabetes, etc. Deep inflammation happens in line β (obese, diabetic, hypertriglyceridemic) at 100ds, diminishing and becoming chronic at 200ds. β male rats were fed from weaning to 200ds (n:5/group): habitual food(C), habitual food+chia seeds(CH) [Ω_3], habitual food+sunflower seeds(G) [Ω_6], habitual food+high oily sunflower seeds(GO) [Ω_9] and habitual food+grated coconut(CO) (saturated AG). Eumetabolic Wistar (W) received habitual food. Cellular immunity (peritoneal macrophage counting and peripheric blood mononuclear cell), glycemia, postprandial lipemia curve and deposit were evaluated (ANOVA/ Bonferroni) (mean±SEM): Co show higher adipose deposit (g/biomass) [Co: 0.0994±0.005, G: 0.0864±0.004, C: 0.0540±0.001, GO: 0.0856±0.004, CH: 0.0610±0.003 y W: 0.0262±0.002] (p:0.0001). G and GO shows the great glycemias [Co: 1.67±0.24, G: 3.55±0.09, C: 1.29±0.06, GO: 3.77±0.24, CH: 1.12±0.02 y W: 0.88±0.06] (p:0.0001). β has a dysfunctional adipose tissue (AT) that causes a chronic inflammation by its hypertriglyceridemia. Postprandial lipemia of all groups vs W ($p<0.001$). Co has the most macrophages and produce AT higher volume but not higher inflammation. G and GO would have their inflammatory peaks at about 100ds. CH muffles inflammation. Only GO lymphoproliferation shows high values, probably the main inmunitary cell is the macrophage. In spite of this, a lymphocitary intervention of qualitative character, not quantitative cannot be discarded.

21.

GLYCEMIA AND MORPHOMETRIC VARIABLES IN PUBESCENT AND SENIOR ADULT FEMALES IN CBI/01 MOUSE SUBSTRAIN

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CBi/01 mouse live began in 1980 in UNR, obtained from the cross-breeding of four albino strains of inbred mice. In human beings, the age and body mass index (BMI) show a biological gradient, associated with a higher risk of high glucemias. In CBI/01 mice it was registered, in two groups of pubescent females (P, n=56) and senior adults (S, n=25), weight (Wg), noseanal lenght (NAL cm) and BMI (W/NAL²). Glycemia was determined in fasting (GO mg/dl). Mouse handling was done according to international bioethic recommendations. The variables increased with age. The results (P vs S, mean ±SD) were: W (33,9±2,4; 56,8±4,6), NAL (10,3±0,2;11,5±0,3), BMI (0,31±0,02;0,42±0,03), G0 (111,04±14; 139,20±14,7), p<0,0001. Bivariable correlations among W, NAL, BMI and GO were calculated, obtaining direct and significant values (p<0,001) between (W/NAL), and between (BMI/GO) in P and in the total group(n=81), also were found significant between (W/GO), (NAL/GO) and (BMI/GO), probably because of the age increased. Animals P would present GO considered risky or altered, S show provisional diabetes diagnosis, all in relation with W gradient, NAL and BMI confirmed with age increase. BMI was positively associated with higher G0. The "Compact" mouse detection could help to identify individuals risk of developing alterations of the hydrocarbonated metabolism and use CBI/01 subline as possible animal model.

22.

EFFECT OF CALGRANULIN B ON PARAMETERS OF SPERM FUNCTION

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We have isolated a protein present in the secretion of the human oviductal tissue that interacts with sperm (ESP), and it was identified as human calgranulin B (Cal B). Our objective was to evaluate the effect of cal B on the sperm viability, motility and acrosome reaction (AR). Motile ESP (obtained from normozoospermic donors, following W.H.O and strict morphology criteria) recovered by swim up were incubated in Ham's F10 medium with 3.5% BSA in the absence or the presence of 0.1, 1.0, and 10.0 µg/ml Cal B during 6 or 22 h at 37ºC and 5% CO2. Sperm motility and viability and follicular fluid-induced and spontaneous AR (using Pisum sativum lectin conjugated to fluorescein isothiocyanate) were evaluated after incubations. The difference between % AR-induced and spontaneous AR was considered as % of inducible population (% IP). The results were reported as the mean +/- SEM. A p value of < 0.05 was considered statistically significant. The presence of Cal B did not significantly affect the viability or the sperm motility in the conditions tested. The Cal B caused a dose-dependent increase of %IP at 6 h (Control= 7.4 ± 0.6%, Cal B 0.1 µg/ml= 9.9 ± 0.4%, Cal B 1.0 µg/ml= 11.5 ± 0.2%, Cal B 10 µg/ml= 24.5 ± 2.1%, p<0.001, n=5). No significant effects of cal B were observed after 22 h of incubation (Control= 10.8 ± 3.4%, Cal B 0.1 µg/ml= 11.9 ± 2.9%, Cal B 1.0 µg/ml= 13.7 ± 5.7%, Cal B 10 µg/ml= 5.7 ± 3.0%, p>0.05, n=3). Cal B did not present cytotoxic effects and could modulate the induced-AR through their interaction with human ESP in the assayed conditions.

23.

FLORAL PHENOLOGY OF MAIZE HYBRIDS (*Zea mays* L.) AT DIFFERENT DENSITIES

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The objective of this study was to evaluate the relationship between floral phenology and yield of different hybrids at two sowing densities. The trial was conducted in Zavalla (60º 53' W, 33º 01' S), Argentina, in 2011. The hybrids sown were: I 880 MG (H1), KM 3601 MG RR2 CL (H2), SRM 565 MG (H3), Ax 852 MG (H4), NK 880 TDMax (H5), NK 910 TDMax (H6), M 510 Hx (H7) and 2879 TDMax (H8). The experimental design was a randomized complete block with 4 replications for each hybrid. The treatments consisted of two densities: low (D1) 6 pl m^{-2}, and high (D2) 11 pl m^{-2}. The anthesis-to-silking interval (**ASI**) was calculated and then this was analyzed with the density in each hybrid (ANVA). Pearson's correlation was performed between **ASI** and different variables of yield: number of spikes per plant (**NSP**), yield (**Y**), weight of 1000 grains (**WG**), grain per plant (**GPP**), grains per square meter (**GPM2**) and yield per plant (**YP**). Mean **ASI** values increased significantly only in hybrids H3, H6, H7 and H8. In theses hybrids and in H1, there was a significant positive association between density and **ASI**. There was also a significant negative association between **ASI** and **YP** and **GPP** variables, finding no significant correlation with **Y**. Although some hybrids decreased **GPP** and **YP** values while increasing **ASI,** yields did not vary significantly due to the large number of plants per m^2. With changes in density, there are hybrids that show different compensation mechanisms under favorable environmental conditions for the crop.

24.

EFFECT OF INCREASING DOSES OF PROANTHOCYANIDIN EXTRACTED FROM *Ligaria cuneifolia* ON BLOOD FLUIDITY IN RATS FED CHOLESTEROL-ENRICHED DIET

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Cuneifolia Ligaria (Lc) is an argentine hemiparasitic plant used in folk medicine for decrease of blood fluidity diminishing cholesterol (Co). Our aim was analyzes the effect of increasing doses of the PLc extract on the blood fluidity of rats fed a diet enriched in Co. Adult male Wistar rats (n = 24) were fed for 28 days with "standard diet " adding with Co (97% purity) 8 g / kg of diet and 28% corn oil (wt / wt of diet). The group C (Control, n = 6) received saline and group T (Treated) received the PLc extract, both groups in an ip injection every 24 hours, 3 consecutive days. The doses used were 1.5 mg/100 g body weight (BW) (T1, 5) (n = 6), 3 mg/100 g PC (T3) (n = 6) and 6 mg/100 g PC (T6) (n = 6). The day of the experiment, 24 hours after the last injection, the animals were anesthetized by ip with sodium pentobarbital (50 mg / kg BW); the blood was obtained by cardiac puncture. Total Co (mg%): C: 108.54±2.21; T1,5: 71.56±3.64*; T3: 61.18±3.30*; T6: 67.66±1.17*; CoLDL (mg%): C: 27.76±1.54; T1,5: 13.59±1.08*; T3: 16.13±1.33*; T6: 18.00±0.39*; CoHDL (mg%): C: 25.00±0.74; T1,5: 22.10±2.37*; T3: 15.57±0.60*; T6: 18.75±0.95* (*p<0.05 vs C); relative blood viscosity standardized at a hematocrit of 45%, VSre: C: 5.55 ±0.26, T1,5: 6.26±0.39 (ns vs C); T3: 4.92±0.27 (ns vs C) T6: 7.05± 0.46 (ns vs C); rigidity index, RI: C: 5.86±0.24, T1,5: 6.93±0.44 (ns vs C), T3: 6.06±0.17 (ns vs C), T6: 6.79±0.73 (ns vs C). The treatment with increasing doses of PLc decreases levels of total Co and both CoHDL and CoLDL, without to cause alterations in the fluidity of blood.

25.

STUDY FROM PROTECTOR EFFECT OF QUERCETINE ON ACTION OF ARSENIC ON THE MECANIC PROPERTIES OF ERYTHROCYTE MEMBRANE

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We study if the quercetine (Qc) protects the cell against the effect of arsenic (Asv) on the mechanic properties of erythrocyte membrane: erythrocyte deformability (ED), cell shape (CS) and osmotic fragility (OF). Washed human red blood cell (n: 24) were incubated as follow: I) in PBS, pH: 7.4 10´ (control); II) in 3µM Qc solution, 10´ (Qc); III) in 3µM Qc solution, 10´ and later in AsV solution (0.32 µM Na2HAsO4.7H2O), 30´ (Qc-Asv); IV) in Asv solution, 30´ (Asv). In they were determined (i) rigidity index (RI) (high RI low ED): by filtration through pores of 5µm; (ii) CS: (microscopic) with morphologic index (MI) as result, (iii) OF: (photometrically at 540 nm), with a X50 value (NaCl mM concentration yielding 50% hemolysis) Statistic: ANOVA test; values presented as means ± SEM, $p< 0.05$ was accepted. Results: IR: I: 8.30±0.55; II: 7.97±0.59; III: 8.52±0.50; IV: 10.79±0.75*. OF: I: 74.96 ± 2.05; II: 73.71 ± 2.13; III: 76.01 ± 3.11: IV: 82.17 ± 1.38*; MI: I: 0.74 ± 0.29; II: 1.00 ± 0.32; III: 1.33 ± 0.28; IV: -1.49 ± 0.11*. The analyses of results show significant differences between the fractions I, II and III respect the IV in the studied variables: ED, CS and OF. Therefore, we conclude that the incorporation of Qc in the lipidic bilayer avoid hemilayer imbalance preserve the mechanic properties of membrane and, in consequence, its life span.

26.

ANALYSIS OF RESISTANCE/SUSCEPTIBILITY IN THE ACUTE PHASE OF INFECTION WITH *Trichinella spiralis* (*Ts*) IN CBi+ AND CBi/L MICE

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The response for resisting parasitic diseases is under genetic control. Mice have played an important role in clarifying the pathways that contribute to disease and are valuable for dissecting the effects of host genes in complex traits. The aim of this work was to study the evolution of two variables related to host resistance during the enteric phase of the infection, after a single oral challenge with *Ts*, in CBi-IGE mice of two lines with different susceptibility to the parasite. CBi+ (susceptible) and CBi/L (resistant) young adult animals (90-100 days old) of both sexes (n = 5 per line, sex and date of sacrifice) were infected with 2 L1 *Ts* larvae per g body weight. The animals were sacrificed in the intestinal phase of the infection (3, 6 and 13 days post-infection, p-i). The number of adult parasites (nPA), to assess the host ability to expel parasites, and the *Ts* female fecundity (Fh), that estimates the effective adaptive response of the host to limit parasite infectivity, were analyzed in a small intestine segment. Line CBi+ showed a sex effect in nPA at 13 days p-i ($P = 0.0087$), female nPA being smaller than that of males. Compared with CBi+, both CBi/L males and females had a lower nPA on days 3 (♀, $P = 0.0396$) and 13 p-i (♂, $P = 0.001$; ♀, $P = 0.0267$). nPA decreased with time ($P < 0.001$) in all groups. The effect of the host genotype and sex on Fh could be studied only on days 6 and 13 p-i, since before that date *Ts* females were immature. On day 6 p-i there was no difference between groups. Only CBi/L males showed a significant decrease in Fh between days 6 and 13 p-i ($P = 0.0175$); this comparison could not be made in CBi/L females. The difference in susceptibility to *Ts* observed between CBi+ and CBi/L could be explained in part by the response of each genotype in the acute phase of infection.

27.

EFFECT OF THE HOST GENOTYPE AND SEX ON THE RESPONSE TO INFECTION AND REINFECTION WITH *Trichinella spiralis* (*Ts*) OF CBi-IGE MICE DIFFEREING IN SUSCEPTIBILITY TO THE PARASITE

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The stable endemicity of parasitic infections is the result of a dynamic process of repeated reinfections. Reinfection frequency in a population depends on pressure of infection and host susceptibility, determined by its genotype. The effect of infection and reinfection with *Ts* on parasitic load was studied in mice of two CBi-IGE lines differing in susceptibility to this nematode. CBi+ (susceptible) and CBi/L (resistant) young adult males and females (n=12 per line and sex) were infected with two L1 *Ts* larvae per g body weight and re-infected with the same dose 33±4 days after the primary infection. Muscle parasite load measured at day 30 post-infection was expressed as number of parasites per g of tissue (CPr) while *Ts* reproductive capacity index, ICRr, was calculated as CPr/infective dose. The effects of genotype, treatment (infection or reinfection), and genotype x treatment interaction were studied with a two-way ANOVA. Neither CPr nor ICRr showed a significant effect of sex, though resistance to reinfection was lower in males than in females. Genotype had a very significant effect on CPr and ICRr ($P<0.001$) that was independent of the host sex or treatment. CPr was higher in reinfection than in infection in all groups, but the magnitude of the increase was different (CBi+ ♂ =66%, ♀ =41%; CBi/L ♂ =88%, ♀ =23%) and was significant only in males ($P <0.01$). The results show that under the conditions of the experiment, the efficacy of the protective mechanisms induced in a primary infection depends on both the genotype and sex of the host. Females generated resistance mechanisms that clearly reduced the proportion of parasites capable of completing their cycle.

28.

STRUCTURAL CHANGES IN MOUSES PULPS WITH USUAL AND CARIOUS DIETS TREATED WITH TYPE II COLLAGENASE

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Healthy dental pulp has a poor cells zone or Weil basal whose histological aspect depends on the clinical condition: healthy is visible but with inflammation it disappears when cells migrate, being carious diet one risk factor. Our aim was to study histological changes in basal zone and blood capillaries in mouse pulp tissue applying an experimental caries model. Information was analyzed by chi2 at 5%significance. Mice inbred 'l' divided in (G1) habitual diet (n=18) and (G2) with carious diet of water saccharide solution 10% ad libitum (n=19). Were sacrificed 3 mice in every group and every week in sequential form and post treatment. Jaws were separated, demineralized, treated with type II collagenase, colored with hematoxylin-eosin, visualized by optical microscope. Basal infiltration classified as not existing, partially and totally; vessels size in small and variable. Basal infiltration was different with diet type: absent 9.3% G1 and 0.8% G2 ($p=0.002$); partial 7, 14, 21 days and post treatment was bigger in G1; and total 7, 14, 21 days and post-treatment was smaller in G1. Small vessels 7, 21 and 28 days were bigger in G1 ($p=0.02$); total absence at 14 days G1 and 60% G2 ($p=0.0004$); and bigger in post treatment G2 ($p=0.0006$); size variability G1 at 17, 21 days was bigger ($p=0.02$); 14 days G1 was 100% and G2 40% ($p=0.0004$); 21 days G1 was 33% and 46% G2 ($p=0.53$); 28 days G1 was 36% and G2 53% ($p=0.33$); post treatment 68% G1 and 27% G2 ($p=0.0006$). G1 had basal without infiltration and in G2 it almost occupied total pulp perimeter. In G2 predominated small vessels and sizes variability diminished, being this one an inverse result of the awaited. Consequently, the scanty histological vessel dilatation observed with a carious diet treatment does not confirm an inflammatory response increase.

29.

EFFECT OF A LOW CALCIUM DIET ON THE FERTILITY OF FEMALE β RATS

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Pregnancy and lactation require to female mammals some major adaptations that involve nutritional, hormonal and metabolic changes in order to allow the pups development.
The aim of this study was to evaluate the effect of a low calcium diet on the fertility of female β rats.
To this end, 20 female β rats were fed either a low calcium (0,2 g/100g) (L: 13) or a normal calcium (0.5g/100g) (N: 7) diet since mating and until the moment the offspring was weaned. Both diets were prepared according to the American Institute of Nutrition recommendations.
Comparisons between groups were performed using Student's t test or squared chi test and differences were considered significant when $p<0.05$. Data are presented as mean ± standard deviation.
Results: mating time (ds): N: 27.50±2.33 vs L: 41.00±5.67 ($p<0.05$); percentage of female that weaned: N: 100% vs L: 66.67% ($p>0.05$); brute production of offspring: N: 7.43±4.57 vs L: 6.23±3.92 ($p>0.05$); net production of offspring: N: 7.00±4.40 vs L: 4.15±4.20 ($p>0.05$); survival coefficient: N: 0.94±0.03 vs L: 0.58±0.13 ($p<0.05$); fertility coefficient: N: 1.11±0.27 vs L: 0.74 ± 0.15 ($p>0.05$).
The low calcium intake severely affected pups production, so it would be desirable to assess blood calcium levels during pregnancy in order to give a suplemment if necessary.

30.

INSULIN – RESISTANCE AND CARDIOVASCULAR RISK

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Our objective was to study modifiable risk factors. We have analyzed 118 volunteers between the ages of 30 and 50. Anthropometric measures (weight, size, wrist circumference, waist and hips circumference, brachial perimeter, tricipital, bicipital, subscapular, suprailium and abdominal skin fold thickness). Were calculated: body mass index (BMI), cardiovascular risk (CVR) by waist circumference (WC). Blood pressure, profile, serum glycemia and insulin were measured. Insulin resistance and β secretion through HOMA-2 IR and HOMA 2% β were obtained respectively, through the Oxford group program. Results: normal weight (11%), overweight (18%), and obesity (71%). The cardiovascular risk estimated by WC: 54 % increased, 27% very increased and 19% normal; 25% of all the patients presented high blood pressure. Lipid profile parameters were increased: Cholesterol (38%), Triglycerides (41%), C/HDL-C (34%) and TG/HDL-C (45%) and HDL-C was reduced in a 42%. BMI >24,9 and also hypertensive people show an increase in the prevalence of TG/HDL ratio, insulin resistance marker and increased LDL. Increased glycemia was observed in 7% of the population. Concentrations higher than 11 μU/ml were considered as hyperinsulinemia. It was the 17% which presented hyperinsulinemia, the 16% showed an increase in HOMA-2IR and 41% of the HOMA 2% β. The Pearson correlation between BMI (obesity indicator) and HOMA-2IR, WC and HOMA-2IR were significative ($p< 0,01$).The prevalence of obesity, together with insulin resistance and an altered lipid profile are the main conditions of major risk factors associated to cardiovascular diseases. These factors can be modified by changing life styles which depend on encouraging someone's first care.

31.

URINARY ELECROLYTES, GLOMERULAR FILTRATE, BLOOD PRESSURE AND NUTRITIONAL DIGNOSIS IN ADOLESCENTS

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In Santo Tome city, sodium content in water is 348 mg/l which widely exceeds the recommended limit of 100 mg/l. This city's population is exposed to the intake of increased amounts of sodium through drinking water. Objective: to determine sodium (Na) and potassium (K) conpsumtion through the measurement of urinary excretion of both ions, estimate the glomerular filtration rate (GFR) as a renal function parameter, and make nutrition diagnosis for a group of adolescents. Seventy seven male and female, aged between 15 and 17 years old, may indicate a high intake of Na+ and / or low K+,participated in this study. Were determined Na , K and creatinine in serum and on the first morning urine. Anthropometric measures and blood pressures were recorder. GFR was estimated by Bedside Schwartz equation and the body mass index (BMI) was calculated. Natriuria in the spot greater than 75 mEq/l was associated to sodium consumption higher than 6 g/day (Luzardo, 2011) and a GFR > 75 ml/min 1,73 m2 body surface as normal renal function indicator. The 63.6% of the adolescents had a greater NaCl intake to 6 g / day, a value that exceeds the WHO recommended. Only 4,7% of this group showed increased blood pressure. The 14% of the population showed a GFR below 75 ml / min. 1.73 m2 body surface. The 14% of the adolescents presented BMI greater than 24.9 kg / m2 (9% overweight, 5% obese). Only 7% of this group showed increased blood pressure. Only 4% of the population showed a Na/K urinary ratio <1. WHO recommends a consumption ratio Na/K no more than 1. The found values may may indicate a high intake of Na+ and / or low K+.

32.

SOYBEAN: EFFECTS OF GREEN STEM DISORDER ON SEED COMPOSITION AND ITS RELATIONSHIP WITH PLANT DENSITY

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Field trials were carried out in Zavalla, Argentina (33º 01' S) under rainfed conditions. Soybean cv DM 3810 seeds were sown in 5 november 2011 and final plant densities were 19 (L), 41 (M) and 74 (H) plants.m^{-2}. Experimental design was a randomized complete block with 3 replications. The proportion of plants with green stem disorder (GSD) was calculated and oil (O) and protein (P) concentration (%) of seeds from GSD and non GSD plants were determined at harvest time. Data were analyzed by analysis of variance and LSD test was used to compare means. The proportion of plants with GSD was 10; 32 and 48% in L; M and H plant density, respectively, differing significatively ($p<0.05$). Oil concentration showed significative effects ($p<0.0003$) between plants densities, kind of stems (GSD vs. non GSD) and interaction plant density x kind of stem. Seeds of GSD plants had lower O % than non GSD (14,9 vs. 15,5%). Seeds from L, M and H densities had 14.6; 15.8 and 15.2 O%, respectively. The highest difference in O% between GSD and non GSD plants was found in M density (16.4 vs. 15.3%). In protein concentration, there were only significative effects of kind of stems and interaction plant density x kind of stem ($p<0.0012$). Seeds of GSD plants had higher P % than non GSD (35.0 vs. 33.6%). The highest difference in P% between GSD and non GSD plants was found in H density (36.6 vs. 32.8%). It appears that in this cultivar there was a change in the aminoacid and carbohydrates translocation from vegetative tissues (stems) to fruits that affected the normal senescence pattern of soybean stems.

33.
INTRODUCTION TO THE STUDY OF FAMILY *Polygalaceae* IN THE PROVINCE OF SANTA FE (ARGENTINA)

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The objective of this work is to begin the taxonomic study and the geographical and ecological distribution of the Polyg*alaceae* Family for the province of Santa Fe. This Family is classified inside the order *Geraniales* (or *Fabales, sensu* APG III). They are herbaceous plants, shrubs or small trees; leaves simple, entire, alternate. Inflorescence in raceme, spike or panicle, pseudoaxillary or terminally. Perfect zygomorphic flowers. Calyx with 5 free sepals, 2 internal petaloids. Corolla with 2 rudimentary petals or absent, and 3 petals fused to the staminal tube (8 fused stamens). Superior ovary, with 2 carpels and 1 style, curved or straight. Fruit a capsule with hairy seeds and caruncle. We worked with specimens preserved in the herbaria UNR, SF and SI; together with bibliographical revision. Our preliminary results show that the family is represented in Santa Fe by 2 genera, *Monnina* Ruiz & Pav. with 3 species: *M. dictyocarpa* Griseb., *M. resedoides* A. St.-Hil., *M. tristaniana* A. St.-Hil.; and *Polygala* L. with 11 species and 2 varieties: *P. adenophylla* A. St.-Hil. & Moq. var. *adenophylla*, *P. aspalatha* L., *P. australis* A.W. Benn., *P. bonariensis* Grondona, *P. cyparissias* A. St.-Hil. & Moq., *P. duarteana* A. St.-Hil. & Moq., *P. extraaxillaris* Chodat, *P. linoides* Poir. var. *linoides*, *P. molluginifolia* A. St.-Hil. & Moq*., P. pulchella* A. St.-Hil. & Moq., *P. subandina* Phil. Taxonomic information, illustrations and a distribution map are provided.

34.
THE *Erythroxylaceae* FAMILY IN THE PROVINCE OF SANTA FE (ARGENTINA)

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The objective of this work is to begin the taxonomic study and geographical and ecological distribution of the *Erythroxylaceae*, in the province of Santa Fe, Argentina. This family is placed in the order *Geraniales*; it consists of 4 genera and 230 species of tropical distribution, the majority American. Among them, *Erythroxylum coca* Lam., native of the Andes, is very important for its commercial value as stimulant, medicinal and its concentration of alkaloids. In Argentina there are only one genus and five species. These are trees or shrubs. Leaves simple, entire, opposite or alternate, with persistent or deciduous axillary stipules. Flowers heteromorphic, in axillary fascicles or solitary; perfect or sometime unisexual, actinomorphic and pentamerous. Calyx and corolla partially fused, imbricate petals with appendages on the inner surface. Stamens 10, monadelphous, filaments united in a tube covering the gynoecium's lower half. Superior ovary, 3-carpels, 3-locular, 3-ovules of which develops only one; 3 free or somewhat united styles, positioned above or below the stamens. Fruit a one-seeded drupe, with or without endosperm, straight embryo. We worked with specimens preserved in the herbaria UNR (Rosario), SF (Esperanza) and SI (Darwinion, San Isidro); together with bibliographical revision. Our preliminary results show that the family is represented in Santa Fe by one genus and two species: *Erythroxylum cuneifolium* (Mart.) O.E. Schulz y *E. microphyllum* A. St.-Hil., both collected in the north of the province. Taxonomic information, illustrations and a distribution map are provided.

35.
THE *Malpighiaceae* FAMILY IN THE PROVINCE OF SANTA FE (ARGENTINA)

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The objective of this work is to begin the taxonomic study and the geographical and ecological distribution of the *Malpighiaceae*, in the province of Santa Fe, Argentina. This family is placed in the order *Geraniales*; it consists of 75 genera and 1300 species of tropical distribution. In Argentina there are 19 genera and 44 species, three of which are endemic. These are trees, shrubs, vines or perennial herbs with typical malpighian hairs in T shape. Leaves simple, entire, opposite, with multicellular glands on the petiole or in the lamina or both. Inflorescence in pseudoraceme, pseudocorymb or pseudoumbel. Perfect zygomorphic flowers, pentamerous, calyx with 5 sepals covered by oils glands, the eliophores. Corolla with 5 petals with ciliate margin. Stamens 10, somewhat fused, heteromorphic. Superior ovary, 3-carpels, 3-ovules. Fruit: schizocarp, capsule, drupe or achene. We worked with specimens preserved in the herbaria UNR (Rosario), SF (Esperanza) and SI (Darwinion, San Isidro); together with bibliographical revision. Our preliminary results show that the family is represented in Santa Fe by 3 genera and 6 species: *Heteropterys dumetorum* (Griseb.) Nied., *H. glabra* Hook. & Arn., *H. hypericifolia* A. Juss Kunth, *Janusia guaranitica* (A. St.-Hil.) A. Juss., *Stigmaphyllon bonariense* (Hook. & Arn.) C.E. Anderson and *S. calcaratum* N.E. Br. It is probable the presence of *Aspicarpa sericea* Griseb. and *Cordobia argentea* (Griseb.) Nied. Taxonomic information, illustrations and a distribution map are provided.

36.
BURNOUT SYNDROME IN ANESTHESIOLOGISTS AND SURGEONS OF ROSARIO CITY AND SURROUNDINGS

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The Maslach Burnout Inventory (MBI) attempt to quantify burnout through three dimensions, emotional exhaustion (AE), depersonalization (DP) and personal accomplishment (RP). The aim of this study was to compare the behaviour of Anesthesiologists (A) with that of Surgeons (S), in the manifestation of burnout. An anonymus descriptive survey involving 45 A and 37 S of both sexes was raised. Both specialties are different only in the manifestation of AE, 22% of anesthesiologists reaches high values in surgeons the percentage rises to 49%. In AE significant relationship was found for Specialty effect ($p = 0.045$) and Resident effect ($p = 0.022$).
Interaction between Specialty and Workplace was verified ($p = 0.002$) in RP. There were no differences between A and S for Age: A: 34.4 ± 9.6 years vs S: 32.19 ± 7.6 years, $p = 0.260$; Workweek-Hs: A: 59.55 ± 5.19 vs S: 66.46 ± 26.99, $p = 0.182$; call hours weekly: A: 36 (1-95) vs S: 36 (2-72), $p = 0.971$. Proportion of categories of variables between the two specialties did not differ either: Status: $p = 0.292$, N º children: $p = 0.892$, Residence: $p = 0.576$, year residence: $p = 0.433$, Workplace: $p = 0.604$. The identification of risk groups, surgeons and residents can implement different strategies aimed at reducing the syndrome.

37.

EVALUATION OF ADIPOSITY BY MURINOMETRIC PARAMETERS IN SPONTANEOUSLY DIABETICS RATS 15 AND 18 MONTH-OLD

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The eSS rat is a nonobese model of type-2 diabetes. The eSMT rat, with overweight in young animals, develop a type-2 diabetic syndrome more severe than in eSS. In both lines, ageing and body weight are risk factors of the metabolic disturbances. At 15 and 18 month-old, body weight (BW), length of tail, naso-anal length (NL), total length, abdominal circumference and chest circumference were registered in eSS and eSMT males. Lee Index (BW/NL) and BMI (BW/NL) were also calculated. No differences were detected in BW values between lines, nor between ages, as well as no interaction between line and age was detected (P=0.000). Notwithstanding, in eSMT the 18 month-old males showed BW values lower than the 15 month-old males (P=0.001) in contrast, among the eSS rats that difference wasn"t detected (P=0.991). Both waist circumference, an indicator of visceral fat, and chest circumference which is more determined by bone and muscle mass, were higher in eSS compared with eSMT (P=0.000). Even more, in chest circumference significant differences were detected between lines, between ages, as well as interaction between line and age (P<0.000), resulting the lowest values among the 18 month-old eSMT males. No significant differences were detected in the other parameters considered. We conclude that during the second year of age, eSMT males had a greater loss of lean mass and fat reserves than eSS males, which is consistent with their more marked metabolic derangement.

38.

MURINOMETRIC PARAMETERS AS METABOLIC RISK FACTORS IN 3 MONTHS-OLD FEMALE RATS OF THE eSS AND β DISMETABOLIC LINES

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The eSS rat is a nonobese model of type-2 diabetes whilst the β rat spontaneously displays moderate obesity and later type-2 diabetes. Body weight (BW), length of tail, naso-anal length (NL), (TL) total length, (AC) abdominal circumference and chest circumference were registered in females eSS and β of 3 month-old. Lee Index (BW/NL) and BMI (BW/NL) were calculated. Fasting glucose (G0) as well after 30 (G30), 60 (G60) and 120 minutes (G120) of an oral 10% glucose overload were registered. Data are presented as media±standard deviation. Murinometric parameters were significantly higher in β than in eSS with the exception of LT (P=0.07) and CA (P=0.075). Besides in both lines were detected significant positive correlations between BW, BMI and IL, only eSS females exhibited significative correlations between AC and BW (r=0.485; p=0.026) and between AC, BMI and LI (r= 0535; p=0.049). Furthermore G0 was higher in eSS than in β (96.05±10.37 vs 56.41±15.38, P=0.000), values remained within normal according to the criteria of the American Diabetes Association (2012). In eSS but not in β, BW exhibited significant associations with G0 (r = 0.680, p = 0.001) and with G120 (r = 0.454, p = 0.038). BW and abdominal adiposity, assessed by AC, would have more value in the eSS females than in β as markers of the diabetic disturbances.

39.

PARAMETERS OF OBESITY AS INDICATORS OF METABOLIC RISK FACTORS IN 6 MONTHS-OLD MALE RATS OF THE eSS AND β DISMETABOLIC LINES

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The eSS rats is a non obese model of type-2 diabetes. The β rats spontaneously develop moderate obesity and a type-2 diabetes of slow development. At 6 month-old, body weight (BW), length of tail, naso-anal length (NL), total length, abdominal circumference (AC) and chest circumference (CC) were registered in eSS and β males. Lee Index (LI: BW/NL) and BMI (BW/NL) were also calculated. Fasting glucose (G0) as well after 30 (G30), 60 (G60) and 120 minutes (G120) of an oral 10% glucose overload were registered. Data are presented as media±standard deviation. In β, all the murinometric parameters registered were significantly higher than in eSS rats (P=0.000). In β males LI (0.445±0.037) was higher than 0.30, the upper value of the normal range (E Novelli *et al*. Lab Animals, 2006). Besides significant positive correlations between BW, BMI and IL were detected in both lines, only eSS males exhibited significative correlations between AC and BW (r = 0.810, p = 0.001) and between AC, BMI and LI (r = 0.748, P = 0.005). eSS showed higher values of fasting glycemia (P=0.002), G60 (P=0.000) and G120 (P=0.000) than β. In eSS, G0 (136.25±7.95) was also consistent with the diagnosis of diabetes (≥ 126 mg / dl) and G120 (177.50±20.81 with high risk of diabetes (140-199 mg / dl), according to the criteria of the American Diabetes Association (2012). In eSS males, despite BW, BMI and IL were lesser than in β, the abdominal adiposity assessed by AC, would have more value as a marker of diabetic disturbances.

40.

HYDATID CYST AND DIAGNOSTICS SPREADS IN PIGS

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The Hydatid Cyst (QH) is the larval form of the *Echinococcus granulosus* (Batsch, 1786). Diagnosis is done by microscopic and macroscopic observations. When macroscopic diagnosis is uncertain, samples are processed for microscopic examination with buffered formalin 10%, paraffin embedding, sliced (5 μm) and stained with hematoxylin-eosin and Schiff peryodic acid (PAS). We studied QH form pigs, a species to be considered as an intermediate host in the south of the Province of Santa Fe, Argentina. Characteristic structures were identified: cuticular membrane, germinative membrane, hydatid liquid, in fertile QH protoscolices were observed. In the histopathologic characterization, a layer of flattened cells (membrane proligera) was observed and surrounded by eosinophilic and refringent material in laminar disposition (cuticular membrane). Externally, a chronic inflammatory reaction composed of macrophages, lymphocytes, epithelioid cells, multinucleated giant cells and proliferation of fibroblasts with collagen deposit forming a membrane of connective surrounding the QH was observed. Differential diagnoses allowed discerning the following etiologies (1) *Cysticercus tenuicollis* (*Taenia hydatigena* metacestode) in liver serosa, (2) tissue injury by hepatic *Ascaris suum* larval migration, showing a whitish focal areas of diffuse limits, (3) non-parasitic renal cysts, (4) visceral nodular granulomatous lesions.

41.

RELATIONSHIP BETWEEN THE MINIMUM CONCENTRATION OF CLINDAMYCIN, METRONIDAZOLE AND LACTIC ACID CAPABLE OF ERADICATING THE BIOFILM (CMEBP) AND THE MINIMUM INHIBITORY CONCENTRATION (MIC) OF BIOTYPE 1 *Gardnerella vaginalis* (GV1) PLANKTONIC

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The pathogenesis of many infections is linked to the presence of microorganisms forming biofilms (BF). Antimicrobials (AMB) are usually ineffective against them. The aim of this study was to determine the relationship between the preformed CMEBF and the MIC to clindamycin (Cli), metronidazole (Mtz) and lactic acid (Lac) in planktonic Gv1 isolations. We studied 15 Gv1 isolations recovered from vaginal swabs from: 5 women with recurrent bacterial vaginosis, 5 with bacterial vaginosis (BV) and 5 as partners of vaginal microbial content. Each isolation was tested by triplicate. We started in the formation of a Gv1 BF on 96-well microplates in brain heart broth with 2% glucose and one inocu- lum with 10^8 CFU of Gv1/ml for 48 hours in strict anaero- biosis at 37ºC. Once formed the BF we challenged it with decreasing concentrations of Cli (512-0.5 µg/ml), Mtz (1024-0.5 µg/ml) and Lac (128-0.06mm). We revealed not eradicated BF by safranin staining. The reading was performed at 450/620 nm. Furthermore, determinations of MIC were performed by microplate dilution at 3 AMB previously tested (CLSI 2010). Confronting CMEBP results with the CIM obtained, we observe an increase of ≥ 4 dilutions. We can conclude that in order to solve the clinical situation of BV is convenient to study the sensitivity of Gv1 in both states. This can be a major resource in the selection of proper treatment thus minimizing relapses.

42.

FREQUENCY AND ANTIBIOTIC SUSCEPTIBILITY OF BETA HEMOLITIC STREPTOCOCCI FROM THROAT SWABS ISOLATED OF ACUTE PHARYNGITIS

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Acute pharyngitis is one of the most common conditions encountered in office practice. The major treatable pathogen is group A streptococcus (GAS).Other beta-hemolitic streptococci group C (GCS) and G (GGS) also produce, though less frecuently, pharyngitis. The beta hemolitic streptococci (BHS) are all penicillin susceptible, but during the last decade, increased resistance to macrolides has emerged. The aim of this study was to evaluate the prevalence and susceptibility of beta-hemolytic streptococci isolated from throat swabs.
Between january 2009 to august 2012, BHS were isolated from 327 of the 1610 throat cultures (20%). The frequency of GAS, GCS, and GGS was found 17%, 1.7%, and 1.1% respectively.
All strains were susceptible to penicillin, high level of gentamycin and streptomycin. 4 strains (3 GAS and 1 GGS) were low level resistant to chloranfenicol; 12 (7 GAS, 2 GCS, 3 GGS) to tetracycline and 2 (GAS) to levofloxacyn. Between 32 erythromycin- resistance strains (19 GAS, 10 GCS and 3 GGS); 13 had both high level eritromycin and clindamycin-resistance,.6 presents D-test positive (inducible mecanism), and 13 M phenotype (active efflux).
This results suggest that beta-lactamic are the best terapeutic options, and macrolids should be reserved only to allergic patients.

43.

CENTRAL NERVOUS SYSTEM INFECTIONS DUE TO *Nocardia asteroides*

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Nocardia asteroides is a gram-positive, partially acid-fast, soil-born aerobic actinomycete that causes both localized and disseminated infection. Nocardiosis is typically regarded as an opportunistic infection, uncommon cause of intracranial abscesses, which comprise 1% to 2% of all the cerebral abscesses.
Nocardia asteroides infection is acquired from the environment through inhalation into the respiratory tract, which leads to pulmonary disease. Subsequent hematogenous dissemination occurs from the lungs, which leads to cerebral abscess formation as well as cutaneous skin lesions.
We report a case from a 24 years old woman, (she did not use HIV therapy), who developed a cerebral mass lesion 10 month before and under suspected diagnosis of toxoplasmosis started treatment with not clinical or radiological improviment; craniotomy with abscess evacuations was performed. Culture of brain biopsy and abscess specimens development a Gram- positive filamentous rods and dry withe colonies identified as *Nocardia asteroides* by biochemical characterization and susceptibility antibiotic patterns. The mycobacterial culture informs the same results.
Species identifications by the laboratory can have an inmediate impact in the therapy.

44.

EVALUATION OF SOME QUALITY PARAMETERS IN PREDNISOLONE TABLETS FOR VETERINARY USE OF THE ARGENTINE MARKET

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Prednisolone is an anti-inflammatory and anti-allergic drug that suppresses all aspects of acute or chronic inflammation.

In generic drugs based health system it is important to ensure the suitable interchange of products having the same dose of a given drug. Parameters such as friability, dissolution and uniformity of dose units were assessed in 4 brands of locally marketed prednisolone tablets, according to the USP 30, in order to verify the exchangeability of prednisolone tablets (20 mg).

They were analyzed dose, friability, uniformity of dosage units and the dissolution profiles. The four brands met all official tests but only one of them the dissolution test (brand 2).

New dissolution profiles were constructed in another batch of brand 2 and they calculated factors f1 (6,7) and f2 (60.2). There was not significant difference between the two lots. This last test is not a requirement for SENASA and only one mark analyzed showed adequate dissolution profile. This test is an useful tool to compare products or batches of the same product.

45.

THE FORENSIC CRIMINOLOGIST LABORATORY IN CONFIRMATION OF THE ADIPOCERE IN SKELETAL REMAINS

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The adipocere or saponification is a natural phenomenon that consists in the transformation of fat the body. The adipocere is a natural phenomenon of conservation of the corpse. This process is enhanced for the water or wet lands and lack of air among other factors. In the bones the adipocere fills the cavities and the bony spinal canal. The presence of bone material can be determined through analysis of physical parameters such as color, viscosity and the smell. Our objective was to evidence the presence of adipocere comparing two qualitative chemical techniques, the techniques of Burger Bendes and Saatoff. We work with 10 aliquots from samples of femur and 10 aliquots of 3ª,4ª and 5ª vertebras. In all the samples were applied in parallel both techniques, using positive and negative control. Twenty samples were tested wich only 2 gave positive results for adipocere with Saatoff and negative with Burger Bendes, giving positive both techniques in the other tests. We applied the Chi-square test to compare the results obtained and its statiscally significant association was observed($p<0001$)We can conclude that both techniques are applicable to the search for adipocere in skeletal remains. The forensic criminologist laboratory may contribute to the anthropology by proving data that confirms the existence of adipocere and the presumption of stimulus to wich the corpse was subject in study.

46.

CHOLELITHIASIS DISEASE (CHD) RISK IN RELATION TO CERTAIN BOTANIC FOODS INTAKE. A CASE-CONTROL STUDY

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The aim of this study was to analyze the consumption of certain botanic foods and CHD (gallstones or cholecystectomy) risk. A nested case-control study was carried out in Rosario. In this new study, 48 cases and 49 controls were evaluated. Controls underwent an abdominal ultrasound to rule out the asymptomatic gallstones occurrence. All participants underwent a personal interview. Food frequency questionnaires and a Photographic Atlas were used to register diet consumed five or more years before CHD diagnosis for cases, and the usual diet for controls. Both instruments were validated to Argentinean population. Age-adjusted average food consumption differences between cases and controls were evaluated by general linear models. Age-adjusted Odds Ratios (OR) were computed applying logistic regression analysis. Significant differences between cases and controls mean consumption was found for solanaceae ($p=0.016$) and umbelliferae ($p=0.049$). CHD risk decreases with increase consumption of solanaceae (OR=O.98; $p=0.016$) and umbelliferae (OR= 0.26; $p=0.045$). When participants were separated in 3 groups their according consumption level, significant protective effects were found for high intake of umbelliferae (OR=025; $p=0.046$), and legumes (OR=0.365; $p=0.042$). A diet rich in tomatoes, peppers, carrots, and legumes may be helpful in the prevention of CHD.

47.

AFLP CHARACTERIZATION OF UNIFORM TOMATO GENOTYPES AND SELECTION OF PRIMERS THAT MAXIMIZE THE MOLECULAR POLYMORPHISM

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Thirty six AFLP primer combinations were applied to *S. lycopersicum* cv. Caimanta (a commercial genotype), *S. pimpinellifolium* LA722 (a wild genotype), their interspecific F1, two RILs (Recombinant Inbred Lines: ToUNR1 and ToUNR18, second cycle genotypes) derived from a cross between those original parents, and their second cycle hybrid. The goal of this research was to characterize the six genotypes, to make a comparison between the parental and the second cycle genotypes and to select the best primer combinations. Both RILs were selected for long shelf life and high weight fruits. 1394 bands were detected, 1060 of them being polymorphic. The total polymorphism percentage was 76%. The percentage was higher in the RILs and their F1 group (54%) in comparison with the parents and their F1 group (43%). A higher molecular polymorphism is expected between parents in comparison with RILs because of a reduction in genetic variation during the artificial selection. Hence these results suggested recombination and gene rearrangement during the selfing cycle to obtain RILs. The best primer combinations producing the highest number of both total and polymorphic bands were E38xM36, E39xM34, E38xM32, E46xM34, E46xM35 and E46xM36. The cluster showed a high cophenetic correlation coefficient (0,925) and displayed closer distances between parents in comparison with the RILs.

48.

LOSS AND RECOVERY OF THE RIGHTING REFLEX AND THE RESPONSE TO TAIL CLAMPING DURING HALOTHANE ANESTHESIA IN 200 DAYS OLD CBi/L AND CBi+ MALE MICE

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Experimental procedures can lead to pain and distress in research animals and anesthesia administration must modulate this response. We compared the effect of halothane anesthesia in mice selected for large body and low weight (CBi/L) with mice selected for large body and high weight (CBi+). 24 CBi/L and 18 CBi+ 200 days old male mice were anesthetized. Halothane was vaporized at atmospheric pressure in 100% oxygen, at 6 l/min for 40 min. The righting reflex (RR) was assessed as an end point of sedation and the failure to respond to tail clamping (TC) as a marker of clinical analgesia. Variables were registered in a specially designed anesthetic chart, which also recorded complementary physiological information. Data are presented as median (min-max) and analyzed by the Mann-Whitney U test. $P<0.05$ was considered significant. The latencies up to lossing the RR were similar in both groups [CBi/L 149s (109-180) and CBi+ 148s (90-450)], but CBi+ recovered the reflex faster than CBi/L [178s (92-242) and 482s (225-780), respectively $p<0.001$]. CBi/L mice reached analgesia quicker than CBi+ [3 min (2-5) and 8 min (3-20), respectively; $p<0.001$] and lost the analgesia later than CBi+ [CBi/L 9 min (6-13) and CBi+ 3 min (2-4); $p<0.001$]. The differences between both end points in CBi/L and CBi +could be due to the lipophilic properties of halothane (highly soluble in fat) and the increased fat tissue present in CBi+.

49.

EXPERIMENTAL PROTOCOL TO TRANSPLANT ISOLATED HEPATOCYTES FROM RAT DONOR LIVERS TO PARTIAL HEPATECTOMIZED RECIPIENT ONES

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Hepatocyte transplantation (HT) has been proposed as a method to support patients with liver insufficiency. We developed an experimental protocol for HT which let us select: the anesthetics and its doses; the rout of infusion and the number of cells to be transplant; a good label to differentiate donor hepatocytes from recipient ones. Male adult Wistar rats were anesthetized with ketamine-xilazine and two doses were tested: suggested dose (200 and 5 mg/kg of body weight, respectively) and 70% of the suggested one. Recipients were partial hepatectomized and donor livers were *in situ* perfused with collagenase to obtain isolated hepatocytes. Hepatocytes were labeled with 5(6)-carboxifluorescein diacetate succinimidil ester and were transplanted in the recipient spleens. Five cells concentrations were analyzed: $5x10^6$; $1x10^6$; $5x10^5$; $2x10^5$; $1.5x10^5$ cells/mL. Recipients were sacrificed 24 hs, 48 hs and 7 days after transplant. Recipient livers were fixed in 10% formaldehyde and histological processed for paraffin embedded. They were stained with H&E and analyzed with bright-field and confocal microscopy. Selected anesthesia dose was the 70% of the suggested one and cell concentration was $1.5x10^5$ cells/mL. At 24 hs many necrotic foci were seen in recipient livers. At 48 hs fewer necrotic foci and fewer fluorescent cells were seen. After 7 days there were no necrotic foci and few fluorescent cells were integrated to the recipient parenchyma. The protocol let us perform successful surgeries and, cell concentration together with the route selected to infuse the hepatocytes avoided cell clustering in portal vein.

50.

GRADE OF SIMILARITY OF NATIVE WILDLIFE IN TWO ENVIRONMETAL UNITS IN THE CARCARAÑA RIVER HIGH BASIN. (SANTA FE PROVINCE)

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The biomes in the "*Región Pampeana*" meadow have been dramatically changed by the influence of humans on agricultural and farming activities. Habitat loss and fragmentation are the main threats to the survival of mammal communities in the South of *Santa Fe* province. This work compares the specific richness with the grade of similarity of large and medium-sized mammals in two environmental units in the *Carcarañá River* high basin. The two units of study are the farmlands and the halophylic communities of "spartina spartinae" associated with the left bank of Tortugas stream, both located in the Belgrano department (32° 35' 45?S 61° 53' 12?O). The methodology used was based on identification through direct observation and activity signs such as animals' tracks, faeces and other traces. As a result 11 species grouped in 7 families and 4 orders were found. Specific richness (S) showed 10 species for the halophylic communities of "Spartina Spartnae" and 5 for the farmlands. The analysis of faunistic similarity between both environmental units measured (0.36) using Jaccard index and (0.57) using Sorensen index. Due to the measure differences of specific richness and wildlife similarity, it is suggested that the existence of wildlife has been changed and influenced by a stark contrast on the environmental characteristics of the units. Before such a situation it is extremely necessary to do research on key, endangered and ecology relevant species with the aim of finding out efficient strategies for the conservation proposals leading to a careful handling of the region resources.

51.

RICHNESS AND RELATIVE ABUNDANE OF LARGE AND MEDIUM-SIZED MAMMALS IN THE REMAINS OF A XEROPHILOUS FOREST IN *CARCARAÑÁ RIVER* MIDDLE BASIN. (SANTA FE PROVINCE)

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The knowledge of diversity in large and medium-sized mammals from Santa Fe province has highly increased in recent times. Nevertheless, a vast area of this region is still unexplored. The aim of this work is to present the specific richness and relative abundance in the remains of a xerophilous forest in *Carcarañá River* Middle Basin. (32° 55' 38"S 61° 13' 53"O). Having indigenous vegetable formations from the fitogeographic province of *El Espinal*, the landscape's physiognomy in this region is characterized by remarkable variations in relative reduced spaces. The methodology used consisted of a standardized path of lineal transects in search of activity signs (faeces, animals' tracks and other traces) as well as direct observation. The information obtained from the traces found was used to calculate the relative abundance index. A specific richness (S) of 8 species grouped in 8 families and 4 orders was registered, being the indirect registers the most effective methodology. According to the relative abundance of the registered species, the fox (*Pseudalopex gymnosercus*) has the highest occurrence value (0.0013ind/m).The lowest occurrence values, on the other hand, are for two other species: the skunk (*Conepatus chinga*) and the capybara (*Hydrochoerus hydrochaeris*) with an abundance index of 0.0002 ind/m each. The obtained results pretend to lay the foundations for future monitoring programs and ecological research on mammals' colonies.

52.

DETERMINATION OF $CD4^+$ AND $CD8^+$ LYMPHOCYTES POPULATIONS IN DIFFERENT MOUSE LINES, SUSCEPTIBLE AND RESISTANT TO M-406 MAMMARY ADENOCARCINOMA

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CBi mouse line is used as control of an experiment of artificial selection for body conformation from which CBi^- and CBi/L were derived. When CBi mice are challenged with the syngeneic tumor M-406, the tumor grows exponentially in 100% of the animals. In CBi^- the tumor grows in 100% of mice, showing then 100% of regression. In CBi/L tumors show the 3 phases of immunoedition: elimination, equilibrium or escape. Due to the importance of tumor immune response we evaluated the basal levels of $CD4^+$ and $CD8^+$ circulating lymphocytes in naive mice of the three lines. Blood samples were taken (CBi N=8, CBi^- N = 9, CBi/L N=34) and the % of $CD4^+$ and $CD8^+$ lymphocytes was determined by flow cytometry. The % of $CD8^+$ cells was higher in line CBi/L [median (range): 10.7 (9.20-13.60)] than in CBi [7.4 (4.90-14.20)] and CBi^-[8.4 (6.20-10.00)] ($P<0.0001$). The % of $CD4^+$ cells was higher in CBi^-[80.8 (75.90-85.70)] than in CBi [48.2 (20.60-63.80)] and CBi/L [27.3 (19.20-41.80)] ($P<0.0001$). Conclusions: 1) The selection process would have reduced the variance in the % of $CD4^+$ and $CD8^+$ lymphocytes observed in CBi. 2) The higher values of $CD4^+$ cells in CBi^- may suggest a causal relationship between that value and the resistance to the growth of M-406, a hypothesis that must be confirmed with functional studies. Therefore, the assessment of $CD4^+$ and $CD8^+$ levels after challenge with M-406 in CBi, CBi^- and CBi/L would increase our understanding of the antitumor response developed by animals belonging to the different genotypes.

53.

EVALUATION OF M-406 GROWTH IN CBi/L MICE DEPENDING THE INTEGRITY AND INOCULUM SIZE

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M-406 is a breast adenocarcinoma that shows different behavior: in CBi mice tumor growth in 100% of the animals, meanwhile in CBi$^-$ tumor is removed in 100% and in CBi/L tumor show three phases of the inmunoediting theory: 51.6% in escape (ES), 18.5% in equilibrium (EQ) and 29.8% in elimination (EL). In order to assess whether the line CBi/L shows the three phases of tumor growth regardless of inoculum size and integrity, CBi/L were inoculated with trocar [Group (G) I], and suspensions of M-406: G II: $2x10^5$ cells, G III $8x10^5$ cells and G IV $32x10^5$ cells (n=11/group). During the experiment we evaluated the tumor growth three times/week and determined the % of animals that presented EQ, ES or EL phases. Despite the differences observed between groups [GI (ES:51,30%, EQ:18,70%, EL:30,00%); GII (ES:27,27%, EQ:9,09%, EL:63,33%); GIII (ES:40,00%, EQ:30,00%, EL:30,00%); GIV (ES:72,72%, EQ:9,09%, EL:18,18%)] did not reach statistical significance with respect to the number of animals presenting each phases of tumor growth ($X^2 = 8.183$, $P = 0.2250$). We concluded in line CBi/L regardless of the integrity or inoculum size present three phases of tumor growth and in ES the tumor growth rate is the same and in ES the GIV reached the higher tumor volume and required more time to remove it. These results confirm previous evidence that the system can apply CBi/L M-406 as a suitable model for the study of the theory tumor immunoediting.

54.

METRONOMIC CHEMOTHERAPY (MCT) WITH CYCLOPHOSPHAMIDE (CY) + METFORMIN (MET) IN M-406 MAMMARY ADENOCARCINOMA TUMOR-MODEL. EVALUATION OF ANTITUMOR EFFECT

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MCT consist of the chronic administration of low drugs doses, at regular intervals, without extended rest periods. Met is an oral hypoglycemic agent with antitumor activity. Cyclophosphamide (Cy) is an alquilating drug which inhibits angiogenesis and modulates the immune response. Our aim was to study the effect of MCT with Cy + Met on M-406 tumor growth and its toxicity. Inbred female CBi mice were s.c. challenged with M-406 (day 0), and when tumor reached 100-150 mm^3 were distributed in 4 groups, 1) **Control**: with no further treatment; 2) **Cy**: treated with Cy (≡20mg/kg/day) in drinking water; 3) **Met**: treated with Met p.o. (100 mg/kg body weight, 3 times/week); 4) **Cy+Met**: treated as groups 2 + 3. Mice were weighted, tumor volume measured twice weekly and blood samples, on day 0 and at the end of treatment, were taken. On day 36 tumor volume in **Cy+Met** (mm^3, mean±SEM: 929.7±213.8) was lower than in the other groups: **Control** (2880.0±1530.0), **Cy** (2896.4±976.9), **Met** (3772.0±68.0). On day 46 **Cy+Met** had lower volume than **Cy**($P=0.032$); **Cy+Met** showed higher survival than all the groups ($P<0.01$). Glycemia was similar among groups and there was no weight loss. It is concluded that MCT with Cy+Met delayed tumor growth and increased survival of tumor bearers, without showing toxicity. Combined treatment was more effective than those with each drug alone. Those characteristics support its future use in the clinical setting.

55.

METRONOMIC CHEMOTHERAPY (MCT) WITH CYCLOPHOSPHAMIDE (CY) AND DOXORUBICIN (DOX) IN MAMMARY ADENOCARCINOMA TUMOR-MODELS. EFFECT ON THE TUMOR VASCULATURE

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MCT consist of the chronic administration of low drugs doses, at regular intervals, without extended rest periods. We demonstrated the growth inhibition of M-406 and M-234p mammary adenocarcinomas by MCT with CY + DOX, along with a decrease in VEGF serum concentration. Our aim was to study if those modifications in VEGF concentration were reflected in vascular density and tumor microvascular area. Inbred female CBi and Balb/c mice were s.c. challenged with M-406 (A) and M-234p (B) (day 0), respectively, and on day 10 distributed into 4 groups (G). GI: Control with no further treatment; GII: Treated with Cy (≡20mg/kg/day) in drinking water; GIII: Treated with DOX i.p. (0.5mg/kg, 3 times/week); GIV: Treated as GII + GIII. Mice were weighted and tumor volume measured thrice weekly. On days 26 (A) and 31 (B) tumors were excised, fixed and included in paraffin. Blood vessels were identified with CD31 antibody by IHC. The N° of CD31$^+$cells/field in GI-A and GI-B [median, range: 21 (16-26); [19 (17-35)] did not differ from those of GIV-A and GIV-B [19 (18-20)]; 17 (13-20)]. The % of microvascular area (wall+lumen) for GI-A and GI-B [31 (19.2-47.5); 19 (8.3-35.2)] did not differ from GIV-A and GIV-B [18 (10.9-29.5); 11 (9.4-14.4)]. The decrease in serum VEGF is not correlated with N° of blood vessels /field or microvascular area, but could likely "normalize" the abnormal tumor blood vessels and, hence, facilitate drug delivery.

56.

SUNFLOWER ACHENES PHYSIOLOGICAL QUALITY OF PLANTS SUBJECTED TO DEFOLIATION

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The aim of this work was to study the behavior of two cultivars, traditional and high oleic, in relation to vegetative variables, physiological quality and chemical composition of sunflower achenes, produced from plants that were subjected to different levels of defoliation in R4 and R5 (Schneiter and Miller, 1981). Field trials were carried out in Zavalla, Argentina (33º 01´S) during the 2010-11 season. Experimental design was a randomized complete block with 3 replications. Data were analyzed by ANOVA and Duncan´s test. The leaves alternating along the stem, were removed by hand. Treatments were applied on the two central rows and each one was divided into three levels of defoliation (D) in both ontogenetic time. The levels of D were: Control (0%), 40% and 80% D. They were selected and evaluated 10 plants of each genotype and treatment. The cultivars used were Aromo 11 (high oleic) and Paradise 22 (traditional). The variables evaluated were: chapter diameter (DC, m), dry weight of chapter (WC, g); dry weight ratio canopy/ root (DWR, g) Viability (V,%) by tetrazolium, standard germination (SG,%), 1000 achene weight (TW, g); concentration of oil (O, %) and protein (P, %) by using the Soxhlet extractor and the Lecco equipment, respectively. The results of this trial showed that although Aroma 11 presented a best behavior in V and GE, a significant difference ($p< 0.05$) was found in O, when D was performed in R5. Thus, it was observed that P decreased in both genotypes with 40% D in R4 ($p< 0.05$). The defoliations treatments in R4 and R5 affected in different way the vegetative variables, physiological quality and chemical composition of achiness in both sunflower hybrids.

57.

SUNFLOWER: EFFECT OF DEFOLIATION AND SHADING ON THE CONCENTRATION OF OIL AND PROTEIN

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The aim of this work was to study the impact that produce a severe defoliation with respect to shading of similar intensity during flowering (R5.5). Field trials were carried out in Zavalla, Argentina during the 2011-12 season. There were used two genotypes: Paradise 22 (traditional) and Aromo 11 (high oleic) that were submitted to defoliation (80%), shading (80%) and control. Variables studied were: Yield ($g.m^{-2}$); Weight of 1000 grains (g); Dry weight of inflorescence (g); Diameter of inflorescence (Dc, cm); Diameter of sterile center (Dce, cm); Relation Dce/Dc; Concentration de Oil (%) and Protein (%). There were used 16 plants per plot for each genotype and treatment. Experimental design was a randomized complete block with 3 replications. Data were analyzed by factorial analysis 2 x 3 and Duncan´s test. Defoliation and shading showed statistical reductions in Yield, Weight of 1000 grains and Dry Weight of inflorescence. Diameter of inflorescence and Relation of sterile center/Diameter of inflorescence only were affected by Defoliation. With respect to Diameter of sterile center, there were no significative differences between treatments. In relation to Proteins, genotypes showed differential behavior. Paradise 22 showed a significative diminish in protein concentration with defoliation (11,8 %), but in Aromo 11 it was registered an increase of them (10,5 %). Oil was reduced with treatments of Defoliation and Shading in both genotypes. Shading affected more concentration of Oil than Defoliation in both genotypes. Both Defoliation and Shading affected yield and chemical composition of sunflower achenes.

58.

CHEMICAL AND BIOLOGICAL ANALYSIS OF DRINKING WATER SAMPLES OF RAMALLO CITY IN BUENOS AIRES, ARGENTINA

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Human activities often generate substances that can damage the genetic material, thus causing adverse biological effects. In the last decades, bioassays have been developed using plants as testing organisms. One of the most used assays is the *Allium* Test. Neighbors from the city of Ramallo, in the province of Buenos Aires, Argentina were concerned about the increasing amount of cancer cases in their area. The purpose of this study was to evaluate the possible presence of genotoxic substances in Ramallo's drinking water samples through the *Allium* Test, supplemented by basic chemical analysis. Two samples were taken in the months of May and June 2012. They were immediately processed after their reception. The chemical analyses were above the upper limit of the Argentine Food Code. Fito and genotoxicity were evaluated through the *Allium* Test. Yellow onion bulbs were exposed (*Allium Cepa L*) to increasing doses of the samples being tested: 100, 50, 20, 5 y 1%V/V. Negative Control: commercial mineral water. Positive Control: $K_2Cr_2O_7$ 1ppm. Length and morphology of the roots were evaluated as macroscopic parameters. The indexes of phases and mitotic did not differ significantly from the ones observed in the Negative Control. Neither chromosomal aberrations were observed. It was applied variance test (ANOVA $p< 0.05$) to compare data with the respective negative control. To conclude: the chemical and biological assays performed allow to suppose that water samples studied are not a risk in itself for the population's health.

59.

ANISOTROPY INDEX (AI) IN PASTURES WITH DIFFERENT LEVEL OF SOIL DEGRADATION

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The objective was to determinate the effectiveness of AI in order to recognize differences between pastoral soils with different level of edaphic degradation. Pastures sown in autumn (2010 or 2011) and situated in an area next to Facultad Cs. Agrarias were studied. The soil was Vertic Argiudoll and the pasture composition was: *Medicago sativa*, *Festuca arundinacea* and *Bromus catharticus*. Before the study a survey was carried out to determine the level of soil degradation, taking into account soil penetration resistance (PR) in 0-10 cm layer, water aggregate stability in 5-10 cm layer and the presence of surface compaction. Thus, two groups of pastures were recognized: high and low level of soil degradation (HDP and LDP, respectively). Each group was composed of six pastures. PR of each pasture was measured in May 2012 with a manual cone penetrometer, in a wall of a soil pit, where 50 cm (width) and 20 cm (depth) grid with 5 cm x 5 cm cells was placed. In the middle of each cell, PR was measured and a soil sample for moisture determination was taken, in the 0-25 cm layer. PR data were corrected to be expressed in MPa and 18 % soil moisture. AI was calculated by means of the following equation: $AI = 07 (\sum PRi \times Ti / Tt) + 0,3 (maxPR - minPR)$, where PRi: mean PR of i layer (MPa), Ti: i layer thickness (cm), Tt: total thickness (25 cm), maxPR and minPR: maximun and minimal PR (MPa), respectively, in 0-25 cm layer. HDP and LDP pastures were considered treatments and Paired-Samples t Test ($p<0,05$) was applied. HDP pastures showed higher AI than LDP pastures. AI was an effective index method to indicate different soil degradation level of pastures.

60.

CARBOHYDRATE COMPOSITION ANALYSIS OF GLYCOPROTEINS OF THE JEJUNUM OF THE PLAINS VISCACHA, *Lagostomus maximus*

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The objective of this work is focused on the analysis of the carbohydrate composition of glycoproteins (GPs) present in the jejunum of adults of *L. maximus*. Sections of tissue were subjected to histochemical procedures for GPs identification (PAS; KOH/PA*S, PA/Bh/KOH/PAS; KOH/PA*/Bh/PAS, AB pH 2.5, 1.0 and 0.5, AT pH 5.6 and 4.2). The AB technique at different pHs allowed the identification of two different types of goblet cells, which we called type A and type B. Type A cells were the most abundant goblet cell with carboxylated and sulphated GPs. Type B cells were found in less proportion and showed a negative reaction to AB. The GPs of both types of goblet cells presented oxidizable vicinal diol groups and sialic acid residues with and without O-acyl substitution at C7, C8 or C9 and O-acyl sugars. In comparison with the histochemical profile of the duodenum of *L. maximus*, the jejunum had a greater amount of acid GPs.
This study has evidenced that different GPs elaborated and secreted by the plains viscacha jejunum show a high level of histochemical complexity, related to the multiple functions carried out by the digestive tract mucus. The histochemical techniques revealed that GPs in the small intestine of *L. maximus* as well as their glycosylation patterns vary according to the anatomical segment of the intestine.

61.

VASCULARIZATION OF THE MUSCULATURE OF THE PECTORAL FINS OF THE WEAKFISH *Cynoscion guatucupa*

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The aim of the present study is to analyze the vascular supply of the three fibre types of the abductor superficialis muscle of *C. guatucupa* based on histochemical tests to detect capillaries and morphometrical studies. Sections of this muscle were subjected to the following techniques: myosin-AdenosinTriphosphatase (m-ATPase) modified to detect capillaries and m-ATPase to identify different fibre types. The mean diameter for each fibre type (Di) was used to calculate the mean cross-sectional area (Ai) for the different fibre types according to the equation: $Ai= (Di/2)^2 \times \pi$. 100 fibres of the red, pink and white muscle were analyzed to calculate the number of capillaries surrounding a muscle fibre. In the red muscle the maximum number of capillaries surrounding a fibre was 4 and the percentage of fibres without peripheral capillaries was 10%. White fibres had less blood supply than the red and pink ones, with an average of 1.22 capillaries surrounding a fibre and 23% of fibres without capillaries. Pink fibres exhibited an intermediate blood supply, with an average of 1.67 capillaries surrounding a fibre. The area by peripheral capillary increased from red to white muscle. The high vascular supply of the red muscle, involved in the sustained and slow movements, ensure proper transport of substances towards and from the muscle fibre. The white muscle, associated with vigorous movements and easily fatigable, has an anaerobic metabolism, which seems a necessary consequence of its poor vascular supply. The pink muscle shows an intermediate blood supply that correlates with its metabolic features.

62.

***Campylobacter jejuni-coli* (THERMOFILIC) ISOLATES IN LAYING HENS FROM SANTA FE AND ENTRE RÍOS PROVINCES (ARGENTINA)**

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In Rosario (Argentina) *Campylobacter jejuni-coli* is the main responsible for bacterial enteritis and the majority of severe diarrhea cases, which require antibiotic treatment. This work aims to look for *Campylobacter jejuni-coli* colonization in the oviducts of laying hens from Santa Fe and Entre Ríos and to compare the resistance to first choice antibiotic. Then, 50 swabs were taken in each province. It was used selective medium for this bacterium (Agar Mueller Hinton with 5% ovine blood, antibiotics–amphotericin B, trimethoprim, vancomycin, polymyxin B and cefalotin- and Air tolerance factor (FBP)). The incubation was carried out at 42°C with 5-6% O2. Antibiotic susceptibility testing (AST) was performed using the agar diffusion test. There was a 44% of positive isolates in Entre Ríos, whereas only a 20% in Santa Fe (p=0,01; statistically significant difference). Probably, it is due to an inefficient application of the health monitoring programme. The highest percentages of resistance, in both provinces, were observed to fluoroquinolones (70-100%), which are usually employed in bacterial enteritis treatment. Also, we noticed a high resistance to tetracyclines. The indiscriminate use of antibiotic could be responsible for selection of *Campylobacter* resistant strain in fowls. As a consequence, the therapeutic efficiency in humans would decrease. Hence, the need of realizing suitable controls on the principal animal reservoir of this pathogenic bacterium.

63.

COLONIZATION WITH THERMOPHILIC *Campylobacter* IN FIELD CHICKEN RE-RAISED ON THE FLOOR AND IN INDIVIDUAL CAGES

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Thermophilic *Campylobacter* is still a frequent cause of acute bacterial diarrhea worldwide. The objectives of this study were to determine the intestinal porting of thermophilic *Campylobacter* in field broiler at UNR Veterinary School which were re-raised in cages and floor, and characterize the antimicrobial susceptibility of the isolates. In 13 of the 20 chickens (65%) maintained on the floor (Group 1), were isolated *Campylobacter*. 100% of the chickens housed in cages (20/20) were positive. The difference between groups was statistically significant (p = 0.004, Fisher's exact test). All isolates were resistant to tetracycline and three fluorinated quinolones tested (nalidixic acid, ciprofloxacin and levofloxacin) which are the treatment of choice in adults. Instead, macrolides (erythromycin and azithromycin, drugs of choice for children), furazolidone and gentamicin (drug of choice in cases of severe patients) did not showed resistance in any of the 33 isolates. Notably, all strains had the same AST. Both chickens raised on the floor as those housed in cages presented the same antibiotype, which might suggest horizontal contamination through food, staff or drinking water. The results indicate that, regardless of method of rearing, *Campylobacter* is present in these birds intended for human consumption and that cage farming contributes significantly to the colonization with thermophilic *Campylobacter*, fact that is possibly linked to greater manipulation of these birds by staff during test implementation.

64.

INTESTINAL COLONIZATION BY MULTIRESISTANT BACTERIA IN INFANTS

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Within the family *Enterobacteriaceae*, *Klebsiella pneumoniae* is colonizing the intestines of healthy people between 5% to 38%, increasing to 77% in hospitalized patients. A particular feature of strains producing nosocomial outbreaks is their multidrug resistance, in the case of *K. pneumoniae* resistance profile is predominantly producing extended spectrum beta lactamases (ESBLs), which is generally associated with resistance to other antimicrobials. Factors associated with an increased risk of colonization with this pathogen are: prolonged hospitalizations, use of catheters, surgical procedures, immunosuppression and others. The objective of this study is to detect intestinal colonization by multiresistant Gram negative and vancomycin resistant Enterococcus faecium in hospitalized infants in a neonatology service. Stool samples were taken to hospitalized infants by anal swab. The number of samples depended on the number of days they were in hospital, taking the first sample the seventh day of their stay and then one sample every 7 days until discharge. In the period from 01/01/12 to 01/07/12, 48 samples were processed, isolating multiresistant pathogens in 8 of them: 5 *Klebsiella pneumoniae*, 1 *Enterobacter aglomerans* and 1 *Pseudomona aeruginosa*, all producers of ESBL. In one sample was detected VRE. This results highlight the importance of a systematic search for intestinal carrying of multiresistant Gram negatives and VRE, mainly in patients in areas of risk such as infants hospitalized in intensive care unit, in order to prevent dissemination and possible infections.

65.

LAYING HEN CO-COLONIZATION BY *Campylobacter* AND *Salmonella*

Tomey ME[1], Luciano MI[1,2], Pucci Molineris M[2], Cerutti C[2], Lupo S[1], Lindt G[1], Notario R[1,2], Gambandé T[1,2].
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Campylobacter and *Salmonella* are the main responsible for enteritis in humans, which, generally, are self-limited. It was proved that raw chicken meat, eggs and their derivatives are an important link in the transmission of these bacteria. In recent years, it was demonstrated that the indiscriminate use of antibiotics in therapy, both human and veterinarian, generated antibiotic resistance. In this work, we intended to investigate the existence of co-colonization by *Campylobacter* and *Salmonella* in laying hen oviducts of two poultry farms from Wheelwright (EI and EII) and two from Crespo (EIII and EIV), and to determine antibiotic resistance. In order to do this, 25 swabs of laying hen oviducts from each poultry farm were taken. The culture was realized in specific mediums for *Salmonella* and *Campylobacter*. The antibiotic susceptibility testing (AST) was carried out on the isolates using the agar diffusion test. Co-colonization events were found in 3% of the studied samples. All of them came from EIII (Crespo). The AST results indicate that the *Salmonella* isolates were sensitive to all the tested antibiotics, while the *Campylobacter* isolates were resistant to fluoroquinolones. According to this, we consider of great importance the development, promotion and implementation of health monitoring programmes for poultry farms, both at industrial and familiar levels. Thus, horizontal transmission, the principal contagion pathway in animals and humans, would decrease.

66.

NASAL CARRIAGE OF COMUNITY ACQUIRED METHICILLIN-RESISTANT *Staphylococcus aureus* AND MOLECULAR CHARACTERIZATION OF ISOLATES

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Community-acquired methicillin-resistant *Staphylococcus aureus* (CA-MRSA) is an emerging infectious agent with a continuous pattern of evolution, which represents a new challenge for public health. New research report that its transmission is more common in gated communities and the emergence of new clones with specific susceptibility profiles and virulence factors. The objective of this research is to investigate the nasal carriage of CA-MRSA in the community closed groups such as nursing homes and members of sports teams. Conduct isolates' molecular analysis and identification of its virulence factors. PCR was performed to positive isolates for molecular identification. 8 CA-MRSA strains were isolated, 7 of which were at the same geriatric institution sharing rooms. The remaining person was isolated in a sporting population. All carriers of CA-MRSA were female, ranging from 15 to 88 years old.The 7 strains isolated in the geriatric population were resistant to gentamicin, oxacillin and cefoxitin, while the remaining strain was resistant to erythromycin, oxacillin and cefoxitin.In biomolecular characterization, 7 isolates from geriatric population were carriers of gen mecA IV and PVL negative while the athete's isolate was negative for both variables. In conclusion we believe that by investigating and detecting nasal colonization in these populations preventive measures to control the spread of this new strain of *Staphylococcus aureus* could be established. It should be noted the need for awareness on the rational use of antibiotics to reduce morbidity and mortality figures and the high economic costs that this problem entails.

67.

***Salmonella* ISOLATES AND ANTIBIOTIC RESISTANCE PROFILES IN LAYING HENS**

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The salmonellosis is one of the most prevalent zoonoses. It was proved that *Salmonella* enterica causes infections without apparent clinical signs in a broad range of animal species. Fowls, in particular, can disseminate the infection by egg and meat faecal contamination. In this work we intended to investigate *Salmonella* carrying in laying hens in two poultry farms from Wheelwright (EI and EII) and two from Crespo (EIII and EIV) and to determine the susceptibility to first choice antibiotics for therapeutics. In order to do this, 25 swabs of laying hen in productive phase oviducts were taken in each poultry farm. The culture was realized in selective medium for *Salmonella* and the plates were incubated at 37ºC for 48 hs. The antibiotic susceptibility testing (AST) was carried out on the isolates using the agar diffusion test.
In E1, 4 isolates of *Salmonella* were found whereas E2 did not have positive isolates. EIII had 6 positive isolates while there was not *Salmonella* in EIV. The AST results show that the isolates were highly sensitive to the majority of the tested antibiotics, except to fluoroquinolones and tetracyclines.
The proven existence of *Salmonella* free poultry farms implied that implementing biosecurity measures to avoid the fowl colonization and to decrease the horizontal transmission is possible. On the basis of the obtained results of resistance to first choice antibiotic, we observe that it would be enormously important to limit their use to reduce the emergence of new resistant strains of *Salmonella*.

68.

GLYPHOSATE UTILIZATION BY BACTERIA ISOLATED FROM A SOUTH-OF-SANTA FE-VERTIC ARGIUDOLL

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Glyphosate (gf) (N-phosphonomethyl glycine) is the active ingredient of many herbicides used in weed control nowadays, which can be toxic for non-target organisms. Bacterial bioremediation is an alternative to eliminate this xenobiotic from environment. Bacteria strains able to use gf were isolated from soils from Zavalla (Sta. Fe). Bacteria were obtained by enrichment in a mineral salt medium (MSM) supplemented with yeast extract (y.e.) and gf (technical grade, 1mM) as phosphorous (P) source. Experiments were carried out in 3 replicates and incubation temperature at 30ºC. One isolated strain, identified as *Rhodococcus wratislaviensis* strain NCIBM 13082 (accession NR-026524.1, GenBank) was able to use gf (1 mM) as P source in MSM without y.e. when glucose was added as carbon and energy source. Time course of growth (optical density at 660 nm) at different inputs concentrations of gf (1,5; 3.0 and 10,0 mM) showed significant difference ($p < 0,05$) at 10,0 mM. This strain could potentially be used as a model microorganism to evaluate glyphosate environmental decontamination or toxicological tests.

69.

CHARACTERIZATION OF TOMATO DISCREPANT LINES BY SINGLE SEQUENCE REPEATS (SSR) MARKERS

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The cultivated tomato (*Solanum lycopersicum* L.) has a narrow genetic base therefore the wild species constitute valuable genetic resources to improve the crop. The aim of this study was to characterize cultivated and wild tomato genotypes using SSR molecular markers. Twenty-five SSR markers were used to characterize the cultivars Caimanta, Zebra Green and Red Purple of *S. lycopersicum*, the accession LA722 of *S. pimpinellifolium* and three Recombinant Inbred Lines (RILs) ToUNR1, ToUNR17 and ToUNR18. The RILs were obtained from a cross between Caimanta and LA722. The percentage of polymorphism among all genotypes was 92%. Among the cultivars the differences were minimal (lower than 8% of polymorphism). Comparing the RILs with each of their parents higher discrepancies were found with LA722 than Caimanta (88% and 44% of polymorphism respectively). Among RILs the polymorphism was 40%. In addition, cluster analysis based on molecular markers showed three groups of genotypes: the wild species, the RILs and the cultivars. We conclude that it is possible to differentiate each genotype through these 25 SSR markers. Also the multivariate analysis allowed grouping genotypes according to the distances as well as confirms the taxonomic classification of these genotypes.

70.

HIGHER MOTHER CORPORAL INDEX AND HIGHER OFFSPRING WEIGHT AT BIRTH TIME IN CBI/01 MOUSE SUBSTRAIN

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It has been postulated that, in lab rodents, the fat deposit accumulation can predispose in mothers a higher capacity to maintain numerous litters, without reducing the offspring individual weight at birth time. Due to this, it was studied the CBi/01 mouse substrain reproductive conformation variables. In 45 females of 50 days of age, the weight (Wg), and the noseanal lengh (NAL cm) were measured, and the body mass index (BMI=Weight/NAL²), moment in which they were joined for mating. It was considered the days from mating to birth time (d), total number of born offspring and weaned (s), individual mean weight (g) at birth time (litter weight/n) and at weaning (Wlitter/s) and the Fertility (FC=7n(21+d) and Survival Coefficients (SC=S/n). Pearson correlation calculated between W or BMI with production variables, were not significant (rW/d; W /n; W/s; W/WL/n; W/FC; BMI/d; BMI/n; BMI/s; BMI/WL/n; BMI/WL/s, BMI/FC, BMI/SC, p>0,05) except rW/SC: 0,357; p=0,016. Afterwards, the weight and BMI median were fixed and productivity variables (d, n, s, LW/n LW/s FC and SC) were compared above and below them. When mothers had higher BMI (mean±SD): 0,33±0,012vs 0,30±0,014; p<0,0001), for similar "n", the LW/n was higher. Female CBI/01 biomass potential seems to be linked, in part, with processes possibly related to a higher body fat early deposition favouring a higher offspring weight at birth time.

71.

STUDY OF THE ANTIBIOTIC ACTIVITY OF *Peperomia obtusifolia* (PIPERACEAE)

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Peperomia obtusifolia (L.) A. Dietr. (Piperaceae) is an ornamental plant with a broad geographical distribution in Latin America and few reports of its antifungal activity on phytopathogens, tripanocidal activity and a screening about antibiotic potential. The emergence of resistant pathogenic bacteria to currently used antibiotics has shown the extreme necessity to discover new active compounds.

The antibacterial activity of organic extracts (Hexane, Diclorometh-ane, Ethyl Acetate and Methanol) from aerial parts of *P. obtusifolia* (Voucher Specimen Gattuso (901) 2032, UNR) applying agar-overlay bioautography on thin-layer chromatography (Gel Silice 60 GF 254) showed a selective inhibition on Gram (+) bacteria (*Staphylococcus aureus* ATCC 25923 and *Enterococcus faecalis* ATCC 29312). The analysis of the most active extract (DCM), allowed us to propose that the inhibition observed was almost due to the presence of 3,4-dihydro-5-hydroxy-2,7-dimethyl-8-(3''-methyl-2''-butenyl)-2-(4'-methyl-1',3'-pentadienyl)-2H-1-benzopyran-6-carboxylic acid and Peperobtusin A, two prenylated chromanes. A detection limit of 5 μg per spot was obtained for both with Vancomycin® as positive control.

This constitutes the first report about antibiotic activity of chromanes isolated from *P. obtusifolia*.

72.

SEROPREVALENCE TO TOXOPLASMOSIS AND TRYPANOSOMIASIS IN CANINE POPULATION FROM SANFORD CITY SANTA FE, ARGENTINA

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At present, ownership of pets is associated to various factors: the need of company, protection, emotional and to a moral engagement to offer appropriate conditions, mostly by providing health care. Zoonoses are diseases that are naturally transmitted from animals to humans. The aim of this paper was to establish the situation diagnosis of zoonotic diseases such as Chagas and Toxoplasmosis in dogs with owners in Sanford City, Santa Fe Province. Staff of the Clinic for Pets carried out a clinical evaluation to 261 dogs (123 males and 138 females) of undefined breeds, with ages ranging from 6 months to 5 years. Epidemiological records were taken. Blood and sera samples were processed and sent to the Area of Parasitology. ELISA was used with recombinant antigens of immobilized *Trypanosoma cruzi*, employing canine anti immunoglobuline conjugated with peroxidase (SIGMA A6792). For the Toxoplasmosis diagnosis Indirect Hemoagglutination was used with and without 2-Mercaptoethanol (2-ME). No positive sera against Chagas were found and 8 (3.06%) of the sera samples were positive for Toxoplasmosis. *T. gondii* parasite presence and the presence of antibodies in dogs indicate that transmission of the disease would have been due to congenital infections, ingestion of raw meat, and contamination through ingestion of water and/or raw vegetables. The prevalence of *T. gondii* would indicate that the environment in the urban area from where the animals come is contaminated with oocysts. The absence of dogs with Chagas disease would indicate the absence of infected vectors in the analyzed area.

73.

EFFECT OF GASOIL ON *Spartina argentinensis* INITIAL GROWTH

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Soil contamination is one of the undesirable consequences of technological development. Some plants are able to grow under unfavorable environments and therefore are adequate for phytoremediation treatments. When contamination is produced by hydrocarbons, phytoremediation involves mostly the rhizosphere of the plant where adequate conditions for microbial proliferation are generated, favouring contaminant mineralization. Although *S. argentinensis* germinates and establishes in hydrocarbon contaminated soil, emergency and survival percentages are lower. In this study, initial response of *S. argentinensis* to gasoil in soil was evaluated. Seeds were sown in pots with soil previously contaminated with 1, 2 and 3% (w/w) of gasoil and maintained under greenhouse conditions. 220 days after emergence, photosynthetic rate was measured by means of a LiCor 6200. After plants being harvested, shoot and root dry biomass was assessed. Samples of the harvested plants were used to examine the extent of plant-soil-mycorhyzae association provided by the natural fungi present in soil, and evaluating in this way the mycorrhization index, determined as the root length percentage that appeared with fungal colonization. Photosynthetic pigment concentration was also evaluated as chlorophyll a, b, a+b and c+ x content. For all variables evaluated, differences among treatments were established by means of ANOVA and Tukey ($p<0.05$). Even though gas oil did not cause death of plants, significantly reduced shoot and root biomass, photosynthetic rate and mycorhization index, probably by affecting water availability and consequent nutrients absortion, but did not alter photosynthetic pigments concentration.

74.

PERFORMANCE OF DIFFERENT COMMERCIAL CULTIVARS OF CORN IN RELATION TO COMMON RUST

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The object of the present work was to characterize the performance of some corn commercial hybrids in relation to ***Puccinia sorghi***. The hybrids utilized were: Don Mario 2738 MG, ACA 2000, NK 900 TDMAX, M 510 HX RR, I 880 MG RR2, DK 747 MG RR2, AX 887 MG, ACA 470 MG RR2, NK 880 TD MAX y AX 886 MG. Was made an BCDA, with 3 repetitions and 9 m x 2 lines per plots. The evaluations of severity were made on 4 times: 13/12/2011, 27/12/2011, 25/01/2012 and 10/02/2012. The last observation was made 4 weeks after antesis. The severity (area of leaf affected / total area evaluated x 100) were determine by the visual scale of orange rust of wheat leaf (Peterson *et al*., 1948). At the last evaluation was described the infection type on 1 -4 scale. The visual scale of infection type was: 1- no symptoms, chlorotic or necrotic points, 2- Small pustules with o no necrotic points, 3- High pustules, 4- High pustules with necrotic areas. The severity results showed differences between cultivars on the last date. The higher value was 20% (I 880MG RR2) and the minor value was 5% (NK 990 TDMAX). The epidemic situation was low and moderate. On all the cultivars the infection types were 3. The epiphytic progress curves with each cultivar were made. The progress curves adjusted a polinomic function of second degree. The initial values were no related to final values. The high value on the initial evaluation no necessary was corresponding with high value on the last evaluation. The highest values were obtained in the last evaluation.

75.

CHARACTERIZATION OF A PRIMARY CULTURE (PC) OF PROXIMAL TUBULAR CELLS (PTC) FROM RAT KIDNEY. EXPRESSION OF TGF-β AND HSP70 IN HIGH GLUCOSE CONCENTRATION

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A PC of cells from rat renal cortex was obtained by disaggregation with collagenase type V and culturing in DMEM/Ham's F12 (glucose 12mM= control, C), 37°C, 5% CO_2. Alkaline phosphatase (AF) and γ-Glutamyl Transpeptidase (GGT) activities and Aquaporin 1 (AQP1) expression, as PTC markers, were evaluated. The higher enzymatic activities (GGT [UI/g prot]: PC= 92.8±11.8; MDCK= 5.7±1.6, $p<0.05$) and AQP1 immunocytochemical detection, as compared with MDCK cell line (derived from canine renal distal tubule) indicated that the PC consists predominantly of PTC.

The PC incubated for 2 h at 42ºC and returned to 37ºC for 24 h, showed a raised in HSP70 expression, detected by Western blot (HSP70/actin [Arbitrary Units, AU]: 37ºC= 1.1±0.2; 42ºC= 2.6±0.3, $p<0.05$). This result indicates that the inducible citoprotective response is preserved in the PC. No difference between C and high glucose concentration (40mM, HG) was found in HSP70 expression by exposure at 42ºC.

When PC was incubated in HG, mRNA levels (RT-PCR) of the first mediator of diabetic renal disease, the transforming growth factor (TGF-β), was increased with respect to C (TGF-β/ GAPDH [AU]: C= 0.6±0.1; HG= 1.8±0.2, $p<0.05$). This finding indicates that the obtained PC provides a useful tool to study PTC response to pathological situations, such as diabetes.

76.

CONFORMATIONAL CHANGES IN PROTEIN BAND 3 ERYTHROCYTE MEMBRANE ASSOCIATED TO AGING

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Band 3 contains a membrane-spanning domain, that traversing the bilayer 14 times, in α-helical segments conserved and corresponds to Anion Exchangers family (AE), could participate in the generation of senescence cell antigen (SCA). 4,4-diisothiocyanatostilbene-2,2'-disulfonate (DIDS) is a inhibitor of AE1, would join 5th α-helical segment. The aim of this study was to evaluate the conformational changes of the protein band 3 in populations of young red blood cells (YRBC) and senescent red blood cells (SeRBC). We studied peripheral blood samples of volunteer donors with negative serology (n=8). SeRBC and YRBC were obtained subjecting the samples to preformed Percoll density gradients. Were incubated for 45 min at 37ºC in a solution 25 mM DIDS in PBS and were lysed with 5 mM phosphate buffer pH 8 (5P8), the pellets obtained were washed and dissolved in a solution of the detergent octaethylene glycol monododecyl ether ($C_{12}E_8$). Measurement was performed on spectrophotometer fluorescence. The excitation spectra were collected between 300 and 450 nm (λem = 460 nm). The emission spectra between 360 and 600 nm (λexc = 350 nm). The results were expressed as shift in nm of peak DIDS free spectrum with respect each population. Emission spectra: YRBC adduct red moved to 49.52 ± 8.39 nm, the variation in SeRBC was 47.67 ± 10.00 nm. Excitation spectra: showed blueshift, were, for YRBC 2.76 ± 0.71 nm and 5.07 nm ± 10.06 SeRBC. The results demonstrate changes in the tertiary structure of AE1 associated to aging, which may be involved in the generation of SCA.

77.

EFFECT OF THE SENESCENCE IN THE ANION EXCHANGE ACTIVITY OF BAND 3 PROTEIN ERYTHROCYTE

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During erythrocytes aging occurs oxidation cellular membrane protein that can not be repaired. The membrane domain of band 3 participates of exchange Clð/HCO3ð involved in the transport of CO2. The aim of this study was to determine the anion exchange due to band 3 in erythrocyte populations of different ages We studied peripheral blood samples of volunteer donors with negative serology (n=6). Young RBCs (YRBC) and senescent RBCs (SeRBC) were obtained subjecting the samples to preformed Percoll density gradients. The separation efficiency was evaluated by the mean corpuscular volume (MCV). The samples were incubated for two hours at 37 °C in glucose saline buffer with 100 mM Na2SO4 and were washed. The pellets were hemolyzed and deproteinized using trichloroacetic acid. To the supernatant was added a solution of 124 mM BaCl2 in a medium with 50% glycerol. The determination of BaSO4 was done spectrophotometrically by turbidimetry at 525 nm. The results were expressed in micromoles/min/ uL cell volume. The VCM YRBC (91.4 ± 2.1) were significantly higher ($p < 0.001$) than in SeRBC (89.2 ± 1.8), demonstrating the efficiency of the separation of populations. The incorporation of sulfate through band 3 was significantly increased ($p < 0.001$) in YRBC (0.40 ± 0.02), compared to SeRBC (0.32 ± 0.01). The results showed a decrease in the function of exchanging Clð/HCO3ð of AE1 associated with aging of cells and, therefore, would be related to structural changes in the membrane domain, which could be involved in the generation of senescence cell antigen.

78.

IMMUNO ECO EPIDEMIOLOGY OF BRUCELLOSIS AND LEPTOSPIROSIS IN PIGS FARMS FROM CASEROS DEPARTAMENT

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Brucellosis and leptospirosis represents a serious problem in animal and environmental public health. The objectives were to determine the rate of positive reactors pig farms using serological diagnostic techniques for brucellosis and leptospirosis and characterize relevant risk factors. A cross-sectional descriptive study was performed in 1960 adult pigs in 15 farms. Positive reactors farms and pigs were determined using serological tests established by the OIE, risk factors by questionnaire and a process of environmental monitoring was initiated. Differences and associations between Brucellosis and Leptospirosis status and risk factors were analyzed by GraphPad InStat program. Samples from infected farms were obtained for the isolation by cultures and identification of Brucella spp. and Leptospira spp. Isolates were typing at INTA Castelar. The rate of infected farms was 26.6% (4/15) and 100% (15/15) from Brucellosis and Leptospirosis respectively. Isolates of Leptospira spp. were obtained from water sources as L. Borgpetersenii (first isolation in Argentina) and B. suis biotype 1 was isolated from an aborted fetus. The risk of contaminated farms increased and showed a statistically significant association between the rate of brucellosis positive reactors animals and reproductive problems in sows, extensive production system, natural service, introducing new pigs to the farm without a quarantine, contact with other species, disposal of abortions and residues are major risk factors of impact ($p < 0.05$). An integrated environmental monitoring system was developed as a useful tool to know the rate of positive reactors and pig farms, as well as identify and characterize eco-epidemiology variables.

79.

DELETED IN MALIGNANT BRAIN TUMOR 1 (DMBT1) AND GALECTIN-3 COLOCALIZATION IN HUMAN OVIDUCT

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The interaction between sperm and the oviduct results in a mechanism by which some sperm can be stored in the oviduct and allows the selection of sperm with certain qualities. Sperm Binding Glycoprotein (SBG) is a glycoprotein isolated from pig oviductal epithelium which produces acrosomal alterations, suppression of motility and tyrosine phosphorylation of AKAP-4 on capacitated spermatozoa. SBG is located at the apical surface of the porcine and human oviductal epitheliums and is proposed to be involved in sperm negative selection. Recently, we identify that porcine SBG is an oviductal form of DMBT1. The gene DMBT1 was first described due to its frequent loss of expression in brain tumors and epithelial cancer types. The rabbit ortholog of DMBT1, hensin, induces the process of differentiation when it associates with galectin-3. DMBT1 and CRP-ductin colocalize with hensin in the gastrointestinal tract and the kidney, supporting that the three proteins share a common function. Galectin-3 was immunolocalized in bovine reproductive organs, fallopian tubes and human endometrium. The objective of this work was to determine if DMBT1 and galectin-3 share the same localization in fallopian tubes. Both proteins show the same localization in fallopian tube by fluorescence immunohistochemistry, so it is possible that these proteins are implicated in oviductal differentiation.

80.

EXPRESSION OF ITIH4 PROTEIN IN BOVINE SERUM AND OVARIES

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Inter-Alpha-Trypsin Inhibitor Heavy Chain 4 (ITIH4) is a plasmatic glycoprotein associated with acute phase reaction in cattle. Recent studies have established a connection between the expression of ITIH4 and its mRNA with the reproductive process in mammals. The study of the mechanisms involved in establishing and maintaining pregnancy status in the bovine and in other farm animals is especially important given their economic value. A 22 kDa peptide belonging to bovine ITIH4 was expressed in a prokaryotic system. The recombinant peptide was purified and used to prepare antibodies in rabbit. The samples selected for the analysis were sera from pregnant (n=12) and non pregnant (n=12) cows, and from bovine ovaries in both conditions (n=8). The antibodies were used to detect ITIH4 in serum and ovaries samples belonging to pregnant and non pregnant cows by western-blot. We also localized ITIH4 in the ovary by immunofluorescence detection with such antibodies. These results contribute to the hypothesis regarding a putative function for ITIH4 in the reproduction of cow and other mammals.

81.

GENETIC ASSOCIATION BETWEEN RHD AND RHCE ALLELIC VARIANTS

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Numerous RHD alleles are responsible for altered expression of the D antigen. The aim of this study was to characterize 5 samples with altered D expression. Haemmaglutination techniques were used to characterize D epitopes as well as C, c, E and e antigens. PCR SSP was used to detect weak D alleles (type 1 to 4) and to scan the 10 RHD exons. Both RH genes were sequenced by the Sanger method. None of the 5 samples reacted with the anti-Ds IgM except for clone RUM-1 which showed a weak reaction. Weak agglutination was observed with 12 anti-Ds IgG in all cases. The Rh phenotype of all samples was Dvar, C-, c+, e+. All expressed the E antigen but in 2 of them the results were discrepant when different anti-E clones were used. RHD sequencing identified a new mutation 46T>C in exon 1 (Trp16Arg). In samples with altered E expression the mutations 697C>G, 712A>G, 733C>G, 744T>C were identified in exon 5 of the RHcE allele (Gln233Glu, Met238Val and Leu245Val). Segregation analysis revealed that both mutated alleles were in cis. Analysis of the 3-D structure of both proteins allowed to locate the 46T>C mutation in the 1st transmembrane domain of the RhD protein and the mutations in the RHCE allele in the 7th transmembrane region of the RhCE protein. The change of hydrophobic or polar aminoacids by charged residues would hinder the correct assembly of Rh polypeptides in the membrane causing an altered expression of D and E antigen. Identification of associated variants is important for decision making in transfusional medicine especially in patients with unsual genotypes.

82.

EFFECT OF RHD GENE ZYGOSITY ON D ANTIGEN EXPRESSION

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Some blood group antigens are expressed on the erythrocyte membrane under a gene dose effect. There is controversy about the influence of this phenomenon in the Rh system. The aim of this work was to study the D antigen expression in RHD homo and hemizygous samples by flow cytometry. We determined the presence of the D antigen on erythrocyte suspensions by hemagglutination using a monoclonal anti-D IgM/IgG. RhD positive samples (n = 26) were analyzed by molecular PCR SSP and RFLP to determine RHD zygosity. Samples and controls (D negative) were incubated with polyclonal anti-D and then with anti-human IgG labeled with Alexa 488. 100,000 events were acquired and data was analyzed with the FACSDiva program. Statistical analysis determined that the arithmetic variable of the mean intensity fluorescence (MIF) associated with the expression of the D antigen was: homozygous: 19157.1 ± 5217.93 and hemizygous: 13200.5 ± 3006.28. The average value obtained from the arithmetic mean was significantly higher in homozygous than in hemizygous samples ($p < 0.005$, Student's t test). The increase in MIF observed in homozygous samples would be the result of the double dose of the RHD gene on antigen D expression. The RHD zygosity determination would be suitable for the elaboration of globular panels containing homo and hemizygous units that ensure a wide variability of D antigen expression, increasing the sensitivity of irregular anti-D antibodies detection.

83.

PHYSIOLOGICAL RESPONSES INDUCED IN LEAVES OF *Triticum aestivum* EXPOSED TO BIOTIC STRESS

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The objective of this work was to detect changes in the content of Total Protein (TP) and Peroxidase Activity (PA) induced in wheat leaves exposed to biotic stress in natural conditions, South of Santa Fe, Argentina. When the earliest clorotic symptoms appeared, thirty asymptomatic (Asy) and symptomatic (Sy) leaves, per plot, were collected from a cultivar sown in random blocks with 3 replications. Leaves were evaluated in three growth moments of wheat: foliage, tiller and heading stages. Crude extracts (Ce) were obtained from tissue sections (2.5 g) of each treatment and plot. The TP were quantified by Biuret method and expressed as mgTP / ml Pce. PA was calculated meassuring the absorbancy of the tetraguayacol (Ab. 460 nm: 26.6 mM-1cm-1) produced by the oxidation of guayacol with the O2 released by the peroxidase action on the hydrogen peroxide (H2O2) (3 min. reaction). PA was expressed as specific enzimatic activity: µmol of product / min.mg of enzyme. Treatments were duplicated and analyzed with a factorial Anova: 3 plots x 2 reactions (Asy e Sy) x 3 phenologic stages x 2 observations. Values of TP and PA did not show differences between asymptomatic and symptomatic leaves. However, the TP and PA were significantly different ($F = 2,73$; $p < 0,081$ and $F = 60,9$; $p < 0,001$, respectively) among growth moments. The highest and lowest PT values were registered in foliage (23,5 mg TP/ ml Ce) and tiller (18,1 mg TP/ ml Ce) stages, respectively. The PA values were 0,022; 0,097 y 0,126 µmol/ min.mg.enz for leaves collected in foliage, tiller and heading stages, respectively. Both TP and PA values registered in wheat leaves (Poaceae) were significantly lower than those observed in previous studies on soybean (Fabaceae).

84.

COMPARATIVE STUDY OF THE VAGINAL MICRO- FLORA IN POSTMENOPAUSAL WOMEN (PPM) PER CROP AND NUMERICAL VALUE ACCORDING TO BACOVA (BALANCE OF VAGINAL CONTENT)

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The vaginal ecology suffers many changes throughout the life of a woman. We set out to describe the microbial spectrum colonizing the women's vagina during ppm , through microbiological cultures compared with a numerical value according to BACOVA obtained from microscopic evaluation of different present morpho types. We studied 36 women during ppm aged between 54 and 76 years (August 2011-July 2012). We performed two side wall swabs from the vaginal fornix and two smears for Gram and Giemsa staining. Sowing was done by semiquantitative method in different crop types to meet the needs of potential microorganisms The isolations were identified by conventional metabolic phenotyping. In 5.5% of women (2/36), the numerical value of BACOVA (VN) matched with the discovery of lactobacilli and yeasts corresponding with one VN3, in a 11.1% (4/36) we isolated as *G. vaginalis* as the only flora, obtaining a VN 7- 9, on the 83.3% remaining (30/36) the comparison between crops and VN became very difficult as we found a VN4-6 to what corresponds the interpretation of indeter- minate state. The vaginal flora is microbiologically complex and not uniform in women with ppm. This makes predictive interpretation of vaginal dysfunction (through VN) very difficult to introduce to a present clinical entity. It can be concluded that its use results valid in the Candidiasis, nonspecific vaginitis, tricho- moniasis, and for the study of vaginal inflammatory reaction.

85.

ANALYSIS OF ABH ANTIGEN EXPRESSION BY IMMUNOHISTOCHEMISTRY IN BREAST CANCER PATIENTS

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The aim of this study was to investigate the ABH antigen expression in tissue sections from patients with presumptive diagnosis of breast cancer. Tissue samples (n=23) were derived from the Pathology Department of the Hospital Centennial. The sections were fixed in formalin and embedded in paraffin blocks. Then, they were mounted on slides and subsequently polisinados deparaffinized in xylene and rehydrated in alcohols of increasing concentration. Antigen retrieval was performed by heating with microwaves. We used an immunohistochemical technique, NovoLinkTM Polymer Detection Systems, with monoclonal antibody diluted appropriately, valid for paraffin-embedded tissues. Immunostaining was based on the use of a high molecular weight polymer (dextran) to which is conjugated covalently a large number of enzyme molecules and secondary antibody. The result was considered negative when cells demonstrated not dyed. The lesions of breast cancer analyzed showed a total deletion of ABH expression in 19 samples. In samples from patients without pathological diagnosis of cancer (n = 4) retained ABH antigens. We found a significant relationship between ABH antigen expression and the degree of malignancy of lesions analyzed. The deletion of the expression of these antigens would have a negative influence on the prognosis of breast carcinoma, could also be used as a marker of risk in the studied pathology.

86.

DETERMINATION OF CD44 MARKER IN SALIVA SAMPLES OF ORAL LESSIONS

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Several studies have provided evidence that the expression of CD44 is specifically altered in many types of tumours. The aim of this work was to investigate the expression of CD44 marker in patients with pre malignant, malignant and benign oral lesions using two different techniques for sample preparation. We worked with saliva samples from the patients with oral lesions (n=68) to analyze CD44 expression. Saliva samples were concentrated by centrifugation and fixed with 4% of paraformaldehyde. They were incubated with anti-CD44 antibody and then with a secondary antibody labelled with allophycocyanin. We observed by confocal microscopy. All the samples were processes by the same technique but without the paraformaldehyde fixation. Results were semiquantified from strongly positive to negative flluorescence. We observed a varied fluorescence intensity corresponding to the presence of CD44 protein in samples from patients with diagnosis of cancer and pre cancer (n=47) using the same techniques. In contrast, fixed and unfixed samples, from patients with benign (n = 21) did not show fluorescence images as samples of the control group The results obtained by both methods are completely consistent in both patients and controls. The slide technique with paraformaldehyde fixation allows for lasting preparations which retain their morphological and chemical structure, and can be stored for later processing.

87.

***HLA-DRB1* IN PATIENTS DIAGNOSED WITH HEPATITIS C**

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The Hepatitis C virus (HCV) persists in most infected patients and is responsible for a wide spectrum of chronic liver damage, ranging from mild inflammation to liver cirrhosis or hepatocellular carcinoma. The aim of this study was to investigate the association of *HLA-DRB1* alleles with susceptibility or personal protective HCV infection and their participation in the development of liver injury in patients with Hepatitis C (HC). We studied 43 samples from patients with HC who attended the Gastroenterology and Hepatology Centennial Provincial Hospital Rosario. Typify *HLA-DRB1* alleles by reaction technique of polymerase chain with sequence specific primers (PCR-SSP). The comparison of allele frequencies between patients and control groups suggests that *HLA-DRB1*0301* and *HLA-DRB1*0401* predisposing to exert an effect the HC. In contrast, *HLA-DRB1*1103* and *HLA-DRB1* 0808* would be protective for the development of this pathology. We conclude that studies by molecular techniques and the establishment of allele frequencies in the groups studied, allowed us to determine that there is an association between HLA-DRB1 alleles with the development of HC. The knowledge of the HLA system influence on the infection of GH, will allow a better understanding of its pathogenic mechanism.