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A1
ANALYSIS OF THE RESISTANCE TO ANTIMICROBIALS IN *Escherichia coli* STRAINS ISOLATED FROM URINE CULTURE

Carassai M, Brandolisio N, Revelli L, Zafra M
Cátedra de Microbiología, Virología y Parasitología. Facultad de Ciencias Médicas - Universidad Nacional de Rosario.
Email: luzcarassai@gmail.com

Urinary tract infections (UTI) are one of the most frequent reasons for doctor visits in the medical practice. They are one of the main causes of empirical use of antimicrobials (AMB) and result in the appearance of resistant strains. The aim of this study was to determine the resistance profile to AMB in strains of *Escherichia coli* isolated in urine culture obtained from a group of women with tentative diagnosis of urinary tract infection. To carry out this study, records dated between April 2016 and August 2018 from the Microbiology Service of the Chair of Microbiology, Virology and Parasitology of the Faculty of Medical Sciences of the National University of Rosario were consulted. Urine samples were seeded in CLED medium (cystine–lactose–electrolyte-deficient medium) and incubated for 24-48 hrs at 35 °C. Lactose fermenting isolates were interpreted as possible *E. coli*.The final identification was made by using conventional biochemical tests. The sensitivity to AMB was determined through the diffusion method (Kirby-Bauer). First-line antibiotics were tried in uncomplicated UTI (trimethoprim-sulfamethoxazole, ciprofloxacin, nitrofurantoin, cephalothin, ampicillin and ampicillin-sulbactam). A total of 1758 urine samples were analyzed, with a positivity index of 20.3% (n = 357). The obtained isolations were: *E. coli* (42.4%, n = 151), KESC group (Genera *Klebsiella*, *Enterobacter*, *Serratia*, *Citrobacter*, 16.8%, n = 60), *Proteeae* tribe (genera *Proteus*, *Morganella*, *Providencia* 5.9%, n = 21), *Enterococcus* spp. (10.6%, n = 38), *Staphylococcus* spp. (10.9%, n = 39) and others (13.4%, n = 48). The resistance profile to *E. coli* strains was the following: Ampicillin 71.52% (108/151), Ampicillin + Sulbactam 35.10% (53/151), Trimethoprim - Sulfamethoxazole 33.77% (51/151), Ciprofloxacin 31% (31/100), Cefalotin 21.85% (33/151), Nitrofurantoin 2.65% (4/151). The results of this work reflect a variable resistance in first-line AMBs. Nitrofurantoin continues to be a drug with high activity against *E. coli.* Given the low index of positivity found, we believe that bacteriological confirmation and correction of empirical treatment based on the results of this study, should be routine and not exceptional in everyday medical practice, even if it is a primary infection. Dismissing the problem of the growing resistance to the AMB will result in the emergence of multiresistant strains and will force the use of increasingly aggressive empirical treatments, with consequent more resistance.

A2
APPLICATION OF DIFFERENT MICROSCOPIC RESOURCES TO IDENTIFY HUMAN SPERM IN PRESENCE OF YEASTS

Paparella C, Albornoz P, Rodriguez A, Bouvet B
Facultad de Ciencias Bioquímicas y Farmacéuticas. Universidad Nacional de Rosario. E-mail: ceciliapaparella@yahoo.com.ar

The sexual violence is a global problem and a serious crime where the forensic laboratory has relevance in the evaluation of semen samples for the detection of spermatozoids of the aggressor. The evidence is not simple due to the presence of various contaminants and sperm fragility at the intermediate segment level. The objective of the work was to identify human spermatozoids in the presence of yeasts. 46 semen samples from infertile patients were selected and its classified into two groups: G1 (n=28) composed of normal and oligozoospermic samples with sperm concentration between 10 and 30 million spermatozoids per ml of semen; G2 (n=18) with azoospermic samples. 1 ml of each sample was diluted with physiological solution and 50 ul of yeast suspension Candida albicans containing 20 million cells per ml were added. The pure controls with spermatozoids (EC) and yeasts (LC) were processed. The sample were analyzed with optical microscope (OM), phase contrast (FC), polarized light (PL) and fluorescence (FM) using Papanicolaou (PAP) and Bright green-hematoxylin (H-BV). For the statistical analysis of the results, the Chi square test and the Spearman rank correlation coefficient were applied. Applying PAP in G1 gave positive (finding of at least one complete spermatozoid) 50 % of the samples and presumptive (only spermatic heads) the other 50 % without giving negative results (no sperm cells are observed) while the H-BV stain allowed to identify 28.6 % of samples positive, 57.1 % presumptive and 14.3 % negative. In G2 negative results were obtained for both stains in all the samples analyzed. In EC 100 % positive was obtained and in LC 100 % negative applying both stains. The PAP showed greater efficiency ($p < 0.05$) to identify spermatozoids with OM. The detection of refringent elements showed greater correlation with the presence of spermatozoids (FC: r=0.996; $p < 0.001$) than the presence of birefringent (PL: r=0.737; $p < 0.01$) and fluorescent (FM: r=0.487; $p < 0.01$) elements. The use of microscopic resources and staining allows the identification of whole or fragmented spermatozoids in samples contaminated with yeasts, contributing to the clarification and diagnosis of expert cases where the presence of human semen is investigated.

A3
ANALYSIS OF THE EVALUATIONS OF MEDICAL STUDENTS OF 2nd AND 3rd YEAR, RESPECT TO THE UTILIZATION OF A CLINICAL CASE AS ATEACHING METHOD

Hesse L, Albano S, Emili D, Marinozzi D, Drogo C, Trapé M
Bioquímica. Medicina. Universidad Abierta Interamericana.Rosario. E-mail: lautihesse@gmail.com

In the career of Medicine, the use of a clinical case is a basis for integrating the knowledge learned. It represents an advance with respect to traditional designs centered on content, in turn producing a vertical interrelation between subjects and their complete application and understanding. This teaching tool constitutes the main pillar for the formation and development of future professional

skills. Objectives: to analyze the assessments of the 2nd and 3rd year students regarding the resolution of slogans in which clinical cases are presented. Material and methods: surveys were used, composed of 10 slogans and a very dissatisfied assessment table -1- to very satisfied -6-. 61 students participated; 30 of 2nd year and 31st of 3rd year. This previously validated survey was applied. The chi-square association test is applied to see if there is an association between the students' assessment of the teaching modality by means of the resolution of a clinical case and the year to which the students belong. A value of the statistic of 24.61 is obtained, which has an associated probability less than 0.05, for which it is concluded that the data are statistically significant and there is an association between the assessment and the year the students take. Results: after the analysis of the data we can appreciate how the assessment of the students belonging to the 3rd year of Medicine is of a higher degree of satisfaction. Conclusion: the greater satisfaction on the part of the students of more advanced years in the race can be due to its greater facility for the integration of contents and resolution of clinical cases and not directly related to a greater knowledge of the concepts.

A4
ASSESSMENT OF MEDICAL STUDENTS ABOUT THE EXTENSION ACTIVITIES HEIMLICH MANOEUVRE AND STOPPAGE OF HAEMORRHAGE. ACQUISITION OF TRANSVERSAL COMPETENCES

Trapé, M, Drogo, C, Rodríguez León N[2]
Bioquímica. Medicina.. Universidad Abierta Interamericana. [2]Instituto Universitario Italiano de Rosario.
E-mail:marcela.trape@uai.edu.ar

The extension activities (EA) on the university will pay to the development of general competitions. The transversal competitions might be optimized through the extension activities as a new training space, considering that the context is decisive. Objective: Characterise the assessment of the students before and after the extension activities Heimlich manoeuvre and stoppage of haemorrhage as they make possible the acquisition of transversal competitions on medicine students. Materials and methods: It has been done 81 anonymous inquiries, voluntary to students of medicine before (b) and after (a), being previously signed an informed consent. It has been encoded with the last 4 numbers of the national identity document. The instrument that has been used was validated with the alfa of Cronbach test and they were on the EA about the training, carried out by several subjects and acquisition of transversal competitions. It has been analysed the propositions with a Likert scale: nothing (N), a few (F), pretty much (M), a lot (L), and everything (E). The frequency of the variables has been gathered into 2 categories, nothing and a few in one; a lot and everything in other, comparing the calculated proportions with the Z test with a level of signification p<0.05. Results: The instrument used has presented a good reliability (Alfa of Cronbach rate = 0.79). The students have pondered: training b 42 N, 38 F, 1 M, 0 L, 0 T, -12.3*** Z; training a 0 N, 0 F, 2 M, 52 L, 27 F, 12.1*** Z; several subjects b 36 N, 39 F, 6 M, 0 L, 0 F, -11.5*** Z; several subjects a 42 N, 38 F, 1 M, 0 L, 0 F, -12.3*** Z; ethical commitment b 24 N, 35 F, 18 M, 4 L, 0 F, -9.3*** Z; ethical commitment a 0 N, 0 F, 0 M, 35 L, 46 F, 12.4***; communication b 41 N, 36 F, 4 M, 0 L, 0 F, -11.8*** Z; communication a 0 N, 0 F, 1 M, 32 L, 48 F, 12.3*** Z; advising b 46 N, 30 F, 5 M, 0 L, 0 F, -11.6*** Z; advising a 0 N, 0 F, 4 M, 34 L, 43 F, 11.8*** Z; community contact b 43 N, 35 F, 3 M, 0 L, 0 F, -11.9*** Z; community contact a 0 N, 2 F, 0 M, 35 L, 44 F, 12.1*** Z; teamwork b 39 N, 39 F, 3 M, 0 L, 0 F, -11.9*** Z; teamwork a 0 N, 0 F, 2 M, 34 L, 45 F, 12.1*** Z. *** p<0,001. Concussion: The students have significantly appreciated the training they can reach when the EA are carry out from different subjects and It make possible the acquisition of transversal competitions as the ethical commitment and teamwork, considering the fundamental role these competitions have in their training as doctors and members of the health team, and transformers agents for the prevention of the disease and promotion of the health.

A5
EVALUATION OF COGNITIVE DISORDERS IN SPONTANEOUSLY DIABETIC RATS (eSS) AT DIFFERENT AGES

Palma, N[1]; Cholich, V[2]; Funes, A[2,5]; Allasia, MB[3]; Chapo, G[4]; Pacchioni, A[2,5]; Quintana, A[1]
[1]Morphology; [2]Toxicology; [3] Statistics and Data Processing. FBIOyF.[4] CIPReB. FCMR. National University of Rosario. [5]CONICET.
E-mail: aquintan@fbioyf.unr.edu.ar

Diabetes Mellitus type 2 (DM2) produces metabolic disorders that can induce cognitive dysfunctions. For instance DM2 is associated with memory deficit in elderly patients. The CIPREeB breeds spontaneously diabetic rats called eSS (e-Stilmann Salgado). The eSSrats show increasing levels of glycemia (G), cholesterol (Col) and triglycerides (Tg) after postnatal day (PND) 200. Our main goal was to evaluatethe progressive impactof DM2 on the cognitive abilities of eSS rats.TwelveeSS and 12 Wistar non-diabetic controlmale rats, were tested approximately every 30 days, between PND 80 and 280. The Novel Object Recognition Test was applied to evaluate short-term (STM) and long term (LTM)memory. The test has three phases: 1) familiarization, where rats explore two identical objects; 2) STM, one hour later rats explore an object from the familiarization phase (control object, CO)and a novelobject (NO) ; and 3) LTM, on the next day rats explore the CO(which is maintained) and a new NO. Each stage of the test lasts 3 min and was recorded to evaluateanimal's behavior. The exploration time (t) foreach animal was the primary measure. Then, data were converted to a recognition index [tNO / (tNO + tCO)] to evaluate STM and LTM. A recognition index below 0.5 impliesmemory loss. A mixed general linear model was fitted for longitudinal datato run the statistical analysis. It was considered statistically significant when p <0.05. Our results show significant differences at the STMbetween both species (p = 0.0004), being the recognition index lower for eSS rats. Moreover, after PND 215the eSSrats'index values were below 0.50. For Wistar rats, the index was higher than 0.5along all ages tested. In the case of LTM, the recognition indexdecrease along thetime depending on the species (p = 0.009).Wistar rats had a greater memory loss, showing values below 0.5 after PND 250. While at younger ages, the LTMindex was lower in eSS than inWistar rats. Since, there were no differences on the exploration time during familiarization between eSS and Wistar (p = 0.7304), we can

suggestthat the lack of recognition of the NO would be due to memory loss.Furthermore, the decreases in STM in eSS rats from PND 215 happens at the same time that G, Col and Tg serum levels are increasing. We conclude that there is a relationship between DM2 and explicit memory that could be associated with elevated glycolipid levels in eSS rats due to the Diabetic Syndrome that is developed with age. It seems that chronic elevated glycolipid levels damage blood brain vessels, causing metabolic disorders, structural and functional changes in the central nervous system, hypertension and atherosclerotic plaque formation.

A6
RELATIONSHIP BETWEEN TESTICULAR AND SERUM TRANSFERRIN IN HUMANS

[1]*Tosti E*, [1]*Brunori M*,[1]*Raspo E*,[1]*Vallejos E*,[1]*Bovo D*, [1]*Marelli A*,[2]*Yaber F*,[2]*Yaber F*,[1]*Brufman A*
[1]*Facultad de Ciencias Bioquímicas y Farmacéuticas. Dto. Bioquímica Clínica. Área Inmunología.*[2]*Facultad de Medicina, Servicio de Urología. UNR.E-mail: abrufman@fbioyf.unr.edu.ar*

Transferrin (Tf) is the largest iron transporter in human body. In men, testicular isoform is synthesized by Sértoli cells. In previous studies it was observed that,under normal conditions,Tf in seminal plasma is about 50 times lower than in serum. The objective of this work was to compare levels of Tf in seminal plasma and serum from the same individual, to determine if there is any relationship between both concentrations.Basic semen analysis was performed according to WHO criteria and blood samples were obtained from fifty-two men.Tfconcentration was evaluated using the radial immunodiffusion method. Serum Tf concentration was measured with commercial plates DIFFU-PLATE® (Biocientífica SA). For testicular Transferrin (tTf) it was used a radial immunodiffusion plate adapted to low concentrations. On average, serum Tf concentration was 253.24 ± 94.33 mg / dL (mean $\pm$ SD), the minimum concentration of serum Tf was 81.64 mg / dL and the maximum was 546.1 mg / dL. The average tTf concentration was 4.83 ± 2.77 mg / dL (mean $\pm$ SD). The minimum concentration of tTfwas 1.23 mg / dl and the maximum concentration 10.94 mg / dL. In order to evaluate if there was a relationship between Tf in seminal plasma and serum, correlation coefficient of Spearman was used ($r = 0.0918$; p-value = 0.5247, n= 52). It was concluded that there is no association between concentrations of serum Tf and tTf. Both Tfare produced in different tissues and probably with different stimulus.TTf is synthesized in Sértoli cells because of iron requirements for spermatogenesis, but metabolic steps are still unknown.

A7
ANALYSIS OF PLASMA CHOLESTEROL CONCENTRATION AND BILIARY EXCRETION OF BILE SALTS IN WISTAR HYPERLIPEMIC RATS TREATED FOR 7 AND 10 WEEKS WITH A FRACTION ENRICHED IN PROANTHOCYANIDIN OBTAINED FROM *Ligaria cuneifolia* (P*Lc*)

Galiasso, C[1]*; Giacosa, C*[1]*; Galliano, S*[1]*; Fisch, J*[1]*; Urli, L*[1]*; Gonzálvez, J*[1]*; Monti, J*[2]*; Ronco, M*[2]*; Wagner, M*[3]*; Carnovale, C*[2]*; Luquita, A*[1]*.*
[1]*Cátedra Biofísica, Facultad de Ciencias Médicas – CIURN. Universidad Nacional de Rosario.* [2]*Cátedra de Fisiología, Facultad de Ciencias Bioquímicas y Farmacéuticas - Universidad Nacional de Rosario; IFISE-CONICET.* [3]*Farmacobotánica - Farmacia y Bioquímica - Universidad de Buenos Aires. E-mail: carolinagaliasso@gmail.com*

In previous works, we have shown that total extract of *Ligaria cuneifolia* (*Lc*) produces a decrease in plasma cholesterol (Cho) and an increase in biliary excretion of bile salts. The aim of the present work was to analyze the effect of the treatment with P*Lc* fraction for 7 and 10 days on Cho plasma and biliary excretion. Wistar male rats of 70 days old (n=24) were fed during 28 days with a high fat diet (for each 100g of standar diet was added 40% of first bovine juice, HFD). The rats were administered intraperitoneally every 24 hours with saline solution for 7 and 10 days (controls C: C7 and C10, n=6 each) or P*Lc* 3mg /100g body weight during 7 days (T7, n=6) and 10 days (T10, n=6). On day 8 and 11 respectively, animals were anesthetized intraperitoneally with Ketamine/Xylazine (100 mg/kg/3 mg/kg). Finally, blood was obtained by cardiac puncture. Plasma Cho (method: enzymatic with cholesterol oxidase-esterase), bile flow (BF by gravimetry), biliary concentration of bile salts [BS] (enzymatic method) and biliary excretion of BS (EBS = [BS] x BF). No significant differences were found between C7 and C10 in all the determined variables, and as a result it is presented a single group C. Results: (mean $\pm$ EE). Cho(mg%): C: 203.33 ± 21.54; T7: 119.50 ± 14.26*;T10:109.83 ± 11.14*; BF(ul/min. g liver): C:2.45 ± 0.08; T7: 3.44 ± 0.21*; T10: 3.06 ± 0.02*; EBS (nmol/min. g of liver): C: 36.55 ± 10.81; T7: 49.50 ± 2.36*; T10: 53.67 ± 2.33*. (*p<0.05 vs C; Student's t Test for unpaired data). Treatment with P*Lc* shows a significant decrease of Cho plasma in rats fed with HFD. As can be observed, it existed a significant increase of EBS, which this may be the cause of the determined Cho plasma decrease. We conclude that P*Lc* plays a fundamental role in Cho metabolism, so we suggest that BS synthesis augmentation could be due to an increase in the activity of Cho-7 alpha hydroxylase enzyme, which regulates aforesaid metabolism in the liver.

A8
EFFECTS OF THE ADDITION OF SODIUM GLUTAMATE TO THE CHOW OF *BETA* RATS ON FOOD INTAKE AND OBESITY

Aquilano F[1]*, Crespo L*[1]*, Hernández M*[1]*, Cavallo F*[1]*, Merolli D*[1]*, Olguin MC*[2]*, Labourdette V*[1]*, Posadas M*[1]*.*
[1]*Cátedra de Biología, Facultad de Cs Médicas.* [2]*Área de Bromatología y Nutrición, Facultad de Cs Bioquímicas y Farmacéuticas Universidad Nacional de Rosario. E-mail: martaposadas@hotmail.com*

Monosodium glutamate (MSG) is the main responsible for umami taste, the fifth widely accepted taste – the four traditional ones are sweet, sour, salty and bitter. The food industry commercializes it and uses it as a flavor enhancer. There has been a safety concern of glutamate with respect to overweight and obesity epidemics. Several studies, in both humans and animals, have associated the use of

MSG as a flavor enhancer with the onset of obesity and the metabolic syndrome. The reported effects are generally attributed to the direct actions of MSG in the brain, which would affect food intake and body weight. One of the most controversial aspects of MSG consumption is appetite; while some authors argue that by increasing palatability and altering the signaling cascade of leptin at the hypothalamic level, consumers become voracious, others describe a biphasic effect: the addition of MSG would stimulate appetite during ingestion but would improve post-symptomatic satiety. The aim of this study was to evaluate the effects of the addition of monosodium glutamate to the commercial rat chow on food intake and obesity in IIMb/Beta rats. Twelve male, 70 days old Beta rats randomly divided in two groups -Control (C, n:6, commercial rat chow) and Experimental (E, n:6, commercial rat chow sprayed with 1mg MSG /g of feed)- were housed in individual cages and allowed food and water *ad libitum* during 40 days. Body weight and food intake were measured every other day. Food conversion efficiency was calculated as follow: Body weight increase (g) /Food intake (g) x 100. At day forty animals were euthanized and perigonadal (PPG) and retroperitoneal (PRP) fat pads were excised and weighed. Data were analyzed by the Student t test and results were expressed as means ± standard deviation, C versus E: Final body weight (g): 364.6 ± 61.4 vs 377.4 ± 45.1; Body weight gain (g): 108.60 ± 33.90 vs 129.75 ± 25.44; Total food intake (g): 1046.5 ± 88.8 vs 1104.5 ± 52.4; Food conversion efficiency: 10.20 ± 2.56 vs 11.70 ± 2.05; Relative weight PPG (g%): 1.75 ± 0.34 vs 2.02 ± 0.49; Relative weight PRP (g%): 2.85 ± 0.61 vs 3.71 ± 0.51 ($p < 0.05$). There were no differences between groups in food intake, final body weight nor in perigonadal fat depots. Nevertheless, the significantly higher retroperitoneal fat depots weight in the E group expresses a negative effect of the addition of MSG, since the abdominal fat depot is usually considered an important risk factor of the metabolic syndrome.

A9
MOLECULAR ANALYSIS OF TWO *Rh* ALLELIC VARIANTS

Mufarrege N', Trucco Boggione C', Principi C', Luján Brajovich M', Mattaloni S', Ensinck A, García S, Biondi C, Cotorruelo C'. Laboratorio de Inmunohematología. Fac. de Cs Bioq. y Farm. UNR. 'IDICER-CONICET. E-mail: mufarrege@idicer-conicet.gob.ar.

The Rh system is one of the most important blood groups in transfusion medicine because its antibodies are involved in hemolytic Btransfusion reactions. The *Rh* locus is formed by the *RHD* and *RHCE* genes that encode homonymous proteins located in the erythrocyte membrane. Rh polypeptides express more than 50 antigens, of which D epitope is the most immunogenic. The D variant phenotype (Dvar) is characterized by a decreased expression of the D antigen in the red blood cell membrane. Molecular biology studies are fundamental for understanding the genetic complexity responsible for these variants. The aim of this work was to characterize the molecular bases of two Dvar phenotype samples of donors who attended the Immunohematology Laboratory of the Biochemical and Pharmaceutical Sciences Faculty, National University of Rosario. Rh phenotype was determined by hemagglutination techniques using IgM and IgG monoclonal antibodies (clones TH28 / MS26), IgM (clone MS201), IgM (clone RUM1) and IgM (clones LDM1 and ESD1M) for the study of the D antigen. Monoclonal antibodies anti-C (clone MS24), anti-c (clone MS33), anti-E (clone MS258 / MS80) and anti-e (clones MS16 + MS21 + MS63) were used for C, c, E and e antigens expression analysis, respectively. Genomic DNA of these samples was obtained through the salting-out method. *RHD* zygosity was studied by PCR-RFLP. Weak allelic variants *D type 1*, *2*, *3* and *4* was analyzed using specific PCR for these alleles. Subsequently, the characteristic polymorphisms of each of the *RHD* 10 exons were investigated by PCR-SSP. Finally, sequencing analysis was carried out by *Next Generation Sequencing* (NGS). Both samples showed a phenotype Dvar, C +, c +, E-, e +. D antigen study showed weak reactions in immediate reading that were enhanced in antiglobulin phase. A hybrid Rhesus box was detected in each sample, indicating a hemizygous *RHD* state. Molecular strategies did not show the most frequent *D* variant alleles presence. NGS analysis showed the presence of the 851C> T point mutation in *RHD* exon 6 in one of the samples, while in the other the 881C> T polymorphism was detected in *RHD* exon 6. The detected SNPs are responsible for the amino acid substitutions Ser284Leu and Ala294Val, respectively and are located in the transmembrane region of the RhD protein. Both aminoacidic changes -a polar amino acid (AA) by a hydrophobic one (Leu) in one case, and a small hydrophobic AA (Ala) by a larger one (Val) in the other one- would lead to an incorrect folding of the RhD polypeptide, which would result in a decrease in the expression of D epitopes. In transfusions, the identification of alleles that originate phenotypes with aberrant expression of the RhD protein contributes to hemocompatibility based unit selection and to clinical decision making.

A10
MOLECULAR CHARACTERIZATION OF D NEGATIVE C POSITIVE SAMPLES HARBORING THE *RHD-CE(3-9)-D* HYBRID ALLELE

Mufarrege N', Trucco Boggione C', Principi C', Luján Brajovich M', Mattaloni S', Ensinck A, García S, Biondi C, Cotorruelo C'. Laboratorio de Inmunohematología. Fac. de Cs Bioq. y Farm. UNR. 'IDICER-CONICET. E-mail: mufarrege@idicer-conicet.gob.ar.

The *RHD* locus is highly polymorphic and has a large number of alleles responsible for different D phenotypes. *RHCE* and *RHD* genes reside in close proximity, share high nucleotide homology, and harbor numerous repetitive elements, which may serve as hot spots for recombination, giving rise to new alleles to be discovered. Silent *RHD* alleles generate a negative D phenotype, while DEL variants produce apparent D negative phenotypes that express a minimal amount of D antigen in the erythrocyte membrane detected only by specialized serological techniques. In addition, numerous *RHD* alleles are responsible for a variant D phenotype. Previous research conducted in our laboratory showed a high incidence of the *DVII* variant allele in our population responsible for a weakened expression of the D antigen. On the other hand, *RHD* exon 2 sequencing analysis performed in four D negative samples carrying the *RHD-CE(3-9)-D* hybrid structure detected the 329T>C mutation, characteristic of the partial *DVII* allele, in two of the samples. The aim of this study was to characterize the molecular background of D negative C positive samples harboring the *RHD-CE(3-9)-D* hybrid allele. 681 D negative, C positive samples were selected for this study. The D, C, c, E and e status was determined by standard

serologic hemagglutination techniques using specific monoclonal antibodies. In particular, the D antigen was evaluated with a blended anti-D. When an immediate spin negative result was observed with the latter antiserum, the samples were tested by the indirect antiglobulin test. Genomic DNA was isolated using a modified salting-out method. DNA samples were initially screened for the presence of intron 4 and the 3' untranslated region of the *RHD* gene using PCR strategies. *RHD* zygosity was studied by PCR-RFLP in those D negative samples carrying *RHD* specific sequences. In addition, these D negative *RHD* positive samples were further characterized by *RHD* exon specific PCRs. Finally, samples lacking *RHD* exons 3 to 9 were analysed to detect the 329 T>C mutation responsible for the partial *DVII* allele through a PCR-SSP strategy. Among the 681 D negative samples expressing C antigen, 115 (16.9%) showed *RHD* specific amplifications. One hybrid Rhesus box was detected in all D negative *RHD* positive samples suggesting a hemizygous status. The *RHD-CE(3-9)-D* hybrid allele was found in 18 (15.7%) of the 115 samples carrying *RHD* specific fragments. Surprisingly, the 329 T>C mutation was detected in 8 (44.4%) of the 18 samples harboring the *RHD-CE(3-9)-D* hybrid allele. In this work a new silent allele, dubbed *RHD(329T>C)-CE(3-9)-D*, was found to have a high incidence among the *RHD-CE(3-9)-D* hybrid structure. Interestingly, the detection through PCR-SSP of the 329T>C mutation, characteristic of the partial *DVII* allele, in eight samples, supports our previous suggestion that a homologous recombination event between a *DVII* allele and *RHCE* sequences could be responsible for this new hybrid structure. The accurate detection of the *RHD(329T>C)-CE(3-9)-D* hybrid allele in *RHD* genotyping strategies in our population would prevent misleading results when serological data are not available.

A11
STUDY OF THE BEHAVIOR OF THE ELECTROENCEPHALOGRAPHIC CHANNELS AND OF THE NASAL FLOW IN PATIENTS WITH AND WITHOUT OBSTRUCTIVE SLEEP APNEA HYPOPNEA SYNDROME

Villani CMJ[3]*, Acosta MC[3]*, VillalbaCieri GM[3]*, Merolli DC[3]*, CivettaMC[3], Trabachino FN[3]*, Nowak Elseser M J[3]*, Da Costa Alves R[3]*, Roth P[3]*, CuculicTocco T[3]*, Ferreira Reis WL[3]*, Cabral ME[3]*, FacciutoF[3], Dabin CJ[1]*, Aldaz C*[4], Parodi RL[2]*, Spengler MI[1]*
[1]*Cátedra de Física Biológica*, [2]*Cátedra de Clínica Médica*, [3]*IMOFyS*, **Facultad de Ciencias Médicas. UNR,*[4]*Clínica "Le Sommeil".*
E-mail: villanicamila@yahoo.com

The Polysomnography (PSG) evaluates many parameters, such as electroencephalogram (EEG) channels and nasal flow (NF). The determination of their fractal dimension (FD) gives us information of the adaptability of the studied system. The FD's valor is followed by its correlation coefficient R^2, determinant of the fractal properties. It is proposed to analyze the behavior of the EEG channels and NF, of PSG of patients with and withoutobstructive sleep apnea hypopnea syndrome(OSAHS). 48 images of patients without OSAHS and 40 with OSAHS were used; adults between 40 y 60 years old of both sexes. The Higuchi's Algorithm (HA) was used to determine the FD and its R^2 of the EEG channels (C3, C4, O1, O2) and of the NF. The outcomes were expressed as mean (M) and standard deviation ($\pm$) of the analyzed variables, and it was determined the Pearson correlation coefficient (PCC) between $R^2$of the EEG channels and NF.The outcomes in patients without OSAHS were: C3 [FD: M=0.01$\pm$0.001R^2: M=0.048$\pm$0.028], C4 [FD: M=0.04$\pm$0.005 R^2: M=0.6$\pm$0.01], O1 [FD: M=0.01$\pm$0.001 R^2: M=0.8$\pm$0.07], O2 [FD: M=0.02$\pm$0.004 R^2: M=0.7$\pm$0.2], NF [FD: M=0.12$\pm$0.002 R^2: M=0.8$\pm$0.25].In patients with OSAHS were: C3 [FD: M=0.1$\pm$0.003 R^2: M=0.23$\pm$0.1], C4 [FD: M=0.01$\pm$0.001 R^2: M=0.29$\pm$0.19], O1 [FD: M=0.01$\pm$0.001 R^2: M=0.44$\pm$0.2], O2 [FD: M=0.01$\pm$0.001 R^2: M=0.25$\pm$0.01], NF [FD: M=0.03$\pm$0.001 R^2: M=0.35$\pm$0.15].The determination of the PCC in patients without OSAHS resulted: R^2(C3) vs R^2(FN) [PCC=0.23, *p*=0.5]; R^2(C4) vs R^2(FN) [PCC=0.25, *p*=0.4]; R^2(O1) vs R^2(FN) [PCC=0.58, *p*=0.17]; R^2(O2) vs R^2(FN) [PCC=0.61, *p*=0.13]. In patients with OSAHS: R^2(C3) vs R^2(FN) [PCC=0.27, *p*=0.73]; R^2(C4) vs R^2(FN) [PCC=-0.58, *p*=0.42]; R^2(O1) vs R^2(FN) [PCC=0.49, *p*=0.26]; R^2(O2) vs R^2(FN) [PCC=0.93, *p*=0.018].It is concluded that HA could demonstrate maladaptive behavior. In patients with OSAHS, its suggested loss of fractal properties of the studied variables, since the coefficient R^2 decreases significantly in relation to patients without OSAHS. The correlation between R^2 of the C4, O1 and O2 channels vs NF would be moderate in patients with and without OSAHS, this would suggest that the behavior of the nervous system is associated with respiratory parameters in patients with and without OSAHS.

A12
ASSESSMENT OF FUNGAL PATHOGENS IN CORN (*Zea mays* L.) EARS FROM CROPS GROWN UNDER DIFFERENT MANAGEMENT SITUATIONS.

Incremona, M.; González, A.; Romagnoli, M.; Cruciani, M, Papucci, S.; Tuttolomondo, G.; González, M.
Facultad Cs Agrarias, UNR. E-mail: mincremo@unr.edu.ar

The objective of this study was to evaluate the incidence of (three) fungal pathogens in corn ears grown under different crop management situations. The trial was conducted in the experimental field of the College of Agricultural Sciences, Rosario National University, Argentina (Long. O 60º 53`; Lat. S 33º 01`). The corn hybrid ACA 470 VT3 Pro was used on two planting dates (PD): Sep 16, 2016 (early PD: EPd) in one field plot and Nov 1, 2017 in two field plots, one as late planting date(LPd/STa), and another as corn following wheat (FWPd o S2da). At crop growth stage of V6 (Ritchie et al., 1989), plots were fertilized with 3 different doses of urea: N0 kg. ha^{-1}; N75 kg. ha^{-1} and N150 kg. ha$^{-1.}$ The experimental design used was a randomized complete block design with three repetitions. For EPd/STe, water deficit (30mm) was registered at the critical period (30 days around flowering). For LPd/STa and FWPd/S2da rainfall was normal, but temperatures were higher than normal. To determine the incidence (I%) of *Penicillium* (P), *Fusarium* (F) and *Diplodia* (D) grains were incubated **at harvest** in 2% dextrose potato agar**petri dishes** with an alternating light/dark regime of 8/16 h, according to ISTA rules. A total of 200 grains of each experimental unit were examined under a stereomicroscope and a light microscope for the presence of each pathogen. Data was analyzed by Friedman's test. For **STe**, the

highest incidence of P was registered at N150, the incidence of F was the same regardless of dose, and the incidence of D decreased with nitrogen applications. At **STa**, the incidence of P was null for fertilized treatments, the incidence of F was similar regardless of dose and the incidence of D was higher at increasing doses of nitrogen. At **S2da**, N150 reduced the incidence of the three pathogens. Overall, under the present experimental conditions, doses of nitrogen fertilization did not seem to have a direct effect on the incidence of the considered fungal pathogens. However, and given the range of responses, further research is warranted to reach more conclusive crop management recommendations.

A13
RELATIONSHIP BETWEEN GLUCOSE CONSUMPTION AND ALTERATION IN ERYTHROCYTE AGGREGATION IN A NON-ENZYMATIC GLYCOSYLATION MODEL *IN VITRO*

Buszniez P[1], Mascaro Grosso H[1], Pusillico, R[1], D'Arrigo M[1,2], Riquelme B[1,2]
[1]Facultad de Cs. Bioquímicas y Farmacéuticas (UNR), Suipacha 531 (2000) Rosario. [2]Física Biomédica, IFIR (CONICET-UNR).
E-mail: patricia.bus@hotmail.com

In vascular diseases such as diabetes, erythrocytes form anomalous aggregates, which are excessively resistant to dissociation and could be associated with reduced levels of sialic acid in the membrane. Therefore, blood samples from diabetic patients show alterations in the aggregation and mechanical properties of the erythrocyte membrane. In addition, numerous studies on type 2 diabetes have detected significant hemorheological abnormalities, such as increased intracellular viscosity of red blood cells due to high levels of glycosylated hemoglobin. The objective of this work was to analyze glucose consumption and possible alterations in erythrocyte aggregation in *an in vitro* non-enzymatic glycosylation model by the controlled incubation of human red blood cells (RBC) with different glucose solutions. Relationship between the concentration of glucose (G) used by the cell and that adhered to membrane proteins was analyzed by evaluating the alterations in erythrocyte aggregation. RBCs from 3 healthy donors were used, which were washed and incubated under controlled stirring at 37° C, in equal volumes with G solutions of different concentrations (0.2, 0.4, 0.6, 0.8 and 1 g/dL). Glucose concentration in the medium was measured with a Glucometer device (Accu-Chek, Roche), an enzyme detection system Glucose oxidase. The G concentration was measured in each sample every half hour for 4 hours. The erythrocyte aggregation was evaluated using the digital analysis of microscopic images with each sample in fivefold. Results indicate that at 1.5 hour of incubation, the G in the medium was reduced by about 10% of the initial value. At low concentrations of G, a linear behavior of the consumption of G was observed as a function of time, these concentrations representing the values of glycaemia in the human (from 73 to 200 mg / dL). For the highest concentrations of G, the behavior was irregular showing no definite trend. For glycosylated samples with concentrations greater than 0.4 g/dL, significant alterations in erythrocyte aggregation were observed, evidenced by the shape aggregate parameter of the erythrocytes (ASP) and the isolated cell coefficient (CCA). These results are useful for future investigations in order to elucidate the mechanisms by which certain compounds have potential des-aggregating or lipid-lowering activity as those attributed to various phytochemicals present in native plants (Cow hoof, white Sarandí, etc.).

A14
MICRONUTRIENTS CONSUMPTION IN A SAMPLE OF PATIENTS WITH CHAGAS DISEASE

Bertola Compagnucci A[1,2],Dávila A[1], Pezzotto SM[1,2]
[1]Facultad de Ciencias Médicas, Universidad Nacional de Rosario. Santa Fe 3100 (2000) Rosario. [2]IDICER, CONICET.
E-mail: agustina_bc@hotmail.com

In order to characterize food and nutrients intake in a sample of patients with Chagas disease attending the Section of Cardiology at the Hospital Provincial del Centenarioin Rosario city, a cross-sectional studywas carried out. This study is part of a larger project, which seeks to compare in these patients the current consumption patterns, typical of urban areas; with those they had when they lived in endemic areas, and to assess whether these differences exert any effect on the risk of developing chagasic cardiomyopathy. After the signature of a written informed consent form, patient's medical records were reviewed to collect demographic and socioeconomic data. In addition, patient's food consumption was investigated using a validated food frequency questionnaire (FFQ). The FFQ allowed us to estimate quantity and quality of the foods consumed in a habitual way. A photographic atlas was used to determine portions size. Applying a software that was developed by the same group that validated the FFQ and the atlas, the average daily consumption of micronutrients contained in the food were obtained. Average and standard deviation of vitamin: B1 or Thiamin (mg), B2 or Riboflavin (mg), B5 or Pantothenic acid (mg), B6 or Pyridoxine (mg), C (mg), A (μg), E (mg) and K (μg) and minerals: iron (mg), calcium (mg), phosphorus (mg), zinc (μg) and selenium (μg)were calculated. Chi square test was used to analise differences between coverage of the nutritional recommendations (RDA) according to sex. Data of 132 women and 50 men were consigned. Mean age were 53.3 and 50.5 years, respectively. The average daily consumption in women was; vitamin B1: 0.881±0.331, vitamin B6: 1.178±0.516, vitamin E: 9.711±3.759, calcium 641.7±366.9 and zinc: 7934±3476. None of these vitamins and minerals reached the RDA, covering 80%, 71.5%, 64.7%, 53.5% and 99% thereof, respectively. In the male group, the RDA for the same vitamins and minerals were not reached either. The average daily consumptions obtained were: vitamin B1: 0.928±0.379, vitamin B6: 1.182±0.455, vitamin E: 10.95±4.179, calcium 459.6±249.1 and zinc 9547±5316. The percentages of coverage of the RDA that they represented were 77.3%, 78.8%, 72.9%, 38.3% and 86.8%, respectively. Significant differences between men and women in coverage of RDA for vitamin B2 (p=0.0021) were found, not reaching the RDA 52% of men and 26.5% of women. The same happened with vitamin A, 42% of men and 15% of women did not reach the RDA (p=0.0004). Regarding zinc consumption, 74% of men and 54% of women did not reach the RDA (p=0.02). The vitamins and minerals that showed a deficit in coverage are generally found in foods of animal origin. The exception is vitamin E, which is present in vegetable oils. Vitamin A is found in beef liver, eggs and milk, B6 is present in meats, fish, vegetables and cereals,

and B1 is found in all foods of animal origin. Dairy products are a source of calcium, and zinc is found mainly in meat. These results shows us which would be the most lacking foods in the diet of this sample of patients with Chagas disease.

A15
EVALUATION OF THE KINETIC OF AGGLUTINANT ANTIBODIES AFTER VACCINATION WITH TWO COMMERCIAL BACTERINES AGAINST *Leptospira interrogans* IN DOGS

Gorordo ML 2, AdrienRüegger MJ2, Poli, GL1, Luciani ME2, Pidone C2, Anthony L1, Francois S1
1Cátedra de Microbiología; 2Cátedra de Enfermedades Infecciosas, Facultad de Ciencias Veterinarias de la UNR. Bv. Colón y Bv.Spangemberg, (2170) Casilda, Santa Fe. E mail: silvinafrancois@yahoo.com.ar

Leptospirosis induces a humoral immune response that can be detected through the serological technique of Microscopic Agglutination (MAT). The aim of this work was to determine by means of MAT if the titres of agglutinins originated after vaccination against Leptospirainterrogansequal or exceed the cut-off point 90 days after vaccination in dogs. Dogs of different ages and sexes from the south of Santa Fe province which had not been vaccinated against Leptospirosis were divided in two groups In group1, blood sera from 16 dogs were analyzed and in group 2, from 20 dogs. After blood sampling they were vaccinated with two doses of a bivalent bacterin produced by two different laboratories. Both vaccines had L. interrogansserovars: Icterohaemorrhagiae and Canicola. The interval between doses was of 21 days. Dogs were followed up during the essays. After the application of the second dose, blood samples were collected at 15, 30 and 90 days and analysed using MAT reference strains of Leptospiraspp: L. interrogansPomona Pomona; L. interrogansIcterohaemorrhagiaeCopenhageni M 20; L. interrogansCanicolaCanicolaHondUtrech IV; L. kirschneriGrippotyphosa Moskva V; L. interrogansPyrogenesSalinem, L. borgpeterseniiBallumCastellonisCastellón 3. The cut-off dilution was 1:100. In group 1, a dog was detected positive prior vaccination and was ruled out. The analysis 15 days after vaccination showed 4 (4/15) seropositives, 3 reacted to Canicola with titres of 1:100 and the remaining coagglutinated with Canicola and Icterohaemorrhagiae, the highest titre was 1:200 to Canicola. At 30 days, 14 (14/15) dogs were seropositives, 1 to Icterohaemorrhagiae with a titre of 1:400 and 4 to Canicola with titres from 1:100 to 1:200, the remaining 9 presented cross-reactions between vaccine serovars with titres from 1: 100 to 1: 200. At 90 days, 1 (1/15) remained reactive to Icterohaemorragiae with a titre of 1: 100. In part 2, at 15 days post-vaccination, 19 (19/20) seroreactives were found that presented coagglutination among the serovars of the vaccine with titres from 1: 100 to 1: 400. At 30 days, 16 (16/20) sera remained reactive to either serovar or both.Thetitres decreased to 1: 100 in 8 (8/16) for both serovars, in 5 they remained in 1: 200 and 3 became negative. At 90 days, 1 (1/20) continued to present a 1: 200 titre to Icterohaemorrhagiae. It could be observed that: a) there are vaccines that induce a greater response of agglutinins in some dogs; b) 90 days after the vaccination, a small percentage of them remain seroreactive to the MAT; and c) the produced agglutinin titres exceed the cut-off point in a dilution.

A16
DETECTION OF CIRCULATING TUMOR CELLS IN PATIENTS WITH BREAST CANCER BY ANALYZING THE EXPRESSION OF *TWIST-1* AND *MAMMAGLOBIN A* GENES

Gallucci G[1]; Massa, E[1]; Capitaine Funes J[2]; Tabares G[2]; Capitaine Funes C[2]; Tozzini, R[2]; Ghersevich S[1].
[1]Area Bioquímica Clínica, Facultad de Ciencias Bioquímicas y Farmacéuticas, Universidad Nacional de Rosario. [2]Servicio de Patología Mamaria, Hospital Provincial del Centenario. E-mail: sghersev@fbioyf.unr.edu.ar

Breast cancer is the leading cause of death by cancer in women and is characterized by the early spread of tumor cells to distant organs through the bloodstream. These cells are referred to as circulating tumor cells (CTCs) and they are not detected by traditional diagnostic methods. Specific molecular biomarkers are used for detection of CTCs. Some CTCs that are released from breast tumor express TWIST-1 and mamaglobina A (MGA) genes. The objective of this study was to detect CTCs in blood of patients with breast cancer by analyzing the expression of TWIST-1 and MGA. In addition, results were correlated with prognosis factors for breast cancer, such as the presence of estrogen and progesterone receptors, the overexpression of HER2/neu, the presence of metastatic nodes, the size of the tumor (less than or greater than 2 cm), the histological grade (1-2 or 3) and the nuclear grade (1-2 or 3). Blood samples were obtained from patients with breast cancer (n = 36) and donor healthy volunteers (n = 14). Nucleated cells were isolated by density gradients and RNA was extracted. After retrotranscription, real time PCR for genes TWIST-1, MGA and glyceraldehyde 3-phosphate dehydrogenase (control) was performed. TWIST-1 expression was analyzed using the method $2^{-(\Delta\Delta Ct)}$, in comparison with the expression in healthy controls. The results indicated that the expression of MGA was detected in 14% (5/36) of patients' samples, whereas the expression of MGA was not detected in any sample control. Overexpression of TWIST-1 was detected in 17% (6/36) of samples, with a relative increase with respect to the expression in the controls from 26 to 536%. The 3 patients that showed the highest levels of expression of TWIST-1 (158%, 162% and 536% above the expression in the control group, respectively) also presented local and remote metastases. Co-expression of the studied genes was only found in a single sample. Through the combined analysis of both markers CTCs were detected in 27.8% (10/36) of the patients. The correlation analysis between the expression of each of the genes and the prognostic factors was not significant, suggesting that the detection of the CTCs could have independent prognostic value. The application of the Q-Cochran test indicated that the combined analysis of the expression of TWIST-1 and MGA nearly doubled sensitivity detection (p < 0.05) of the CTCs respect to the individual analysis of the expression of every gene, contributing to improve the prognostic evaluation of patients with breast cancer. The increase in TWIST-1 expression would indicate the presence of CTCs in epithelial-mesenchymal transition and may suggest an increased risk of development of metastases.

A17
STUDY OF THE MOLECULAR STRUCTURE OF HAPLOTYPE *RH* CARRIER OF THE ALLELE *RHD*WEAK D TYPE 4*

PríncipiC*,TruccoBoggioneC*,Mufarrege N*,LujánBrajovich M*, Mattaloni S*,Ensinck M,GarcíaBorrás S,Biondi, C,Cotorruelo C*.
Laboratorio de Inmunohematología. Área Inmunología. Facultad de Ciencias Bioquímicas y Farmacéuticas. *IDICER – CONICET.
E-mail:principicintia@gmail.com

The Rh blood group system is highly polymorphic and has a great clinical interest in Transfusion Medicine due to the participation of its antibodies in the processes of immune destruction of the transfused red blood cells. The *RH* locus consists of two homologous genes, *RHD* and *RHCE*. More than 400 alleles have been reported that generate Rh variant epitopes (partial and/or weak) and phenotypes lacking high prevalence antigens. The *RH* genes segregate as haplotypes and some *RHD* and *RHCE* alleles show genetic linkage disequilibrium. The coexistence of aberrant allelic variants in *cis* in patients who are under therapy with chronic transfusions may be responsible for delayed transfusion hemolytic reactions due to the production of complex alloantibodies.Molecular studies allow the characterization of the allele involved in the altered expression of Rh antigens, optimizing transfusional compatibility. The aim of this work was to characterize the molecular structure of the *RH*haplotype carrying the allelic variant*RHD*WeakD type 4*. Serologic and molecular analyses were performed in 39 blood samples carryng the *RHD*Weak D type 4*alelle. The samples were obtained from unrelated patients from different health effectors of our country. D phenotype was investigated by haemagglutination with 4 anti-D monoclonal reagents: IgM / IgG (clones TH28 / MS26), IgM (clone MS201), IgM (clone RUM1) and IgM (clones LDM1 and ESD1M). The complete Rh phenotype was also studied with anti-C (clone MS24), anti-c (clone MS33), anti-E (clone MS258 / MS80) and anti-e (clones MS16 + MS21 + MS63) antibodies. Genomic DNA was obtained using the *salting-out* method. PCR-SSP strategiesallowed the detection of*c.733G*, *c.48C* and *c.48G* polymorphisms in the *RHCE* gene. Serologic analysis in all samples showed a weak D antigen expression and the presence of the c and e antigens only (complete Rh phenotype: D$^{\text{weak type 4}}$ccee). In 36 (92.31%) samples aberrant *RHCE* alleles were detected: 27 (75.00%) *RHCE*ce(733G, 48C, 48G)*, 7 (19.44%) *RHCE*ce(733G, 48G)* and 2 (5.56%) *RHCE*ce(733G, 48C)*. The *RHD*Weak D type 4*allele is responsible for a partial D phenotype whereas the *c.733G* and *c.48C* mutations present in *RHCE* originate c and e partial antigens. The molecular characterization of the *RHD-RHCE* haplotype in patients carrying the *RHD*Weak D type 4*allele results useful to determinetransfusional compatibility and avoid potential anti-D, anti-c or anti-ealloimmunization, mainly in patients who carry*RHCE*Ce,RHCE*cE orRHCE*ce(733G, 48C)* alleles in *trans* and require chronic transfusion therapy for the treatment of their primary pathology.

A18
HEMORHEOLOGICAL ALTERATIONS BY THE *IN VITRO* ACTION OF AQUEOUS EXTRACTS OF LEAVES FROM *Bauhinia forficata* COMMERCIALIZED IN ARGENTINA

Mascaro Grosso, H[1], Santos Maria T.[2], Silva-Herdade, A[2], Saldanha, C[2], Riquelme, B[1,3]
[1]Facultad de Cs. Bioquímicas y Farmacéuticas, UNR. Rosario, Argentina. [2]Instituto de Medicina Molecular, Facultad de Medicina, Universidad de Lisboa, Portugal. [3]Física Biomédica, IFIR (CONICET-UNR), Argentina. E-mail: briquel@fbioyf.unr.edu.ar

Among the innumerable plant species of medicinal interest, there are plants of the genus Bauhinia, which belongs to the Leguminosae family, The Bauhinia genus has approximately 300 species distributed in the tropical regions in the world, mainly in America, Africa and Asia, where 200 species are found in South America. Studies identify that the consumption of the aqueous extract of *Bauhinia forficata* lowers the body's glucose and changes the hemorheological characteristics. We present a preliminary study whose objective was to determine the hemorheological alterations of human blood *in vitro* treated with two aqueous extracts (I: infusion; M: maceration) of *B. forficata* leaves commercialized in our region. Human red blood cells from three healthy donors were treated with the extracts of *B. forficata* leaves (PIPERPOL SRL Córdoba, Argentina). The erythrocyte elongation index (IEE) was determined with a rheometer (Rheodyn SSD Myrenne GMBH, Germany) and the erythrocyte aggregation parameter was measured using an aggregometer (MA1, Myrenne, Germany). The flow of nitric oxide (NO) and the activity of the enzyme acetyl cholinesterase (AChE) was determined with a spectrophotometer (Thermo Scientific Genesis 10 UV). The analysis of the enzyme AChE shows that I induces a decrease and M an increase of its enzymatic activity if compared with the control. The aggregation parameter is significantly lower only for maceration extract probably due to the presence of an inhibitor not yet identified in the composition of the infusion. The elongation index of erythrocytes treated with the infusion extract is significantly lower than the control. The amount of NO attributed to glutathione could be influenced by the inactivation of glutathione redactase induced by oxidative stress and reinforced by the antioxidant compounds of *B. forficata*, with a lower value of the presence of NO in the maceration compared to the control. These preliminary results on aqueous extracts of *B. forficata* leaves should be taken into account for subsequent studies and for the *in vitro* experimental design, in order to obtain significant results.

A19

ANALYSIS OF CONCENTRATION OF PLASMA LIPIDS AND HEMORHEOLOGICAL PARAMETERS IN HYPERLIPEMIC WISTAR RATS FED WITH HIGH FAT DIET (HFD) TREATED FOR 7 AND 10 DAYS WITH *Ligaria cuneifolia* (*Lc*)-PROANTOCIANIDIN ENRICHED FRACTION.

Pelozzi, ME [1]; Giacosa, C[1]; Galliano, S[1]; Fisch, J[1], Urli, L[1]; Crosetti, D[1]; Monti, J[2]; Ronco, M T.[2]; Wagner, M [3]; Carnovale, C[2]; Luquita, A[1].

[1]Cátedra Biofísica, Facultad de Ciencias Médicas - Universidad Nacional de Rosario; CIURN. [2]Cátedra de Fisiología, Facultad de Ciencias Bioquímicas y Farmacéuticas - Universidad Nacional de Rosario; IFISE-CONICET. [3] Cátedra de Farmacobotánica – Facultad de Farmacia y Bioquímica - Universidad de Buenos Aires. Email: milipelozzi@hotmail.com

In folk medicine, the infusions of *Ligaria cuneifolia* (*Lc*) are used to increase blood fluidity and decrease excess plasma cholesterol (Cho). In the present work, we analyzed the effect of *Lc*-proanthocyanidin enriched fraction (P*Lc*) during different times of administration into hyperlipemic rats, on both levels of Cho and triglycerides (TG) in plasma, also the hemorrheological parameters and morphological index. Adult male Wistar rats (aged 70 days, n=24) were fed with standard diet added with 40% bovine meat juice during 28 days (HFD). Then, were administered i.p. each 24hr with either physiological solution (controls C, C7 and C10, n=6 each one) or P*Lc* 3mg /100g body weight (treated T, n=12) during 7 (T7, n=6) and 10 (T10, n=6) days. In day 8 and 11, respectively, they were anesthesized i.p. with Ketamine/Xylazine (100mg/kg/3mg/kg) to obtain blood samples by cardiac puncture. In plasma, Cho (total, HDL and LDL) and TG were determined by enzymatic methods. Results: (mean ± EE). C7 and C10 show no significant differences. Plasma: Cho (mg%): C: 203.33 ± 21.54; T7: 119.50 ± 28.53*; T10: 109.83 ± 11.14*; ChoHDL: C: 22.40 ± 1.66; T7: 21.25 ± 1.70; T10: 19.62 ± 0.84; ChoLDL C: 28.30 ± 1.68; T7: 19.25 ± 0.95*; T10: 16.27 ± 0.71* ; TG: C:274.66±30.66; T7:190.50±21.65*;T10:174.50±16.18*. Blood: VSrs: C: 5.39±0.10, T7: 5.41±0.49 (n.s.); T10: 5.20 ± 0.37 (n.s.) ; RI: C: 6.37 ± 0.47; T7: 6.52 ± 0.23 (ns) T10: 7.25 ± 0.41 (ns); IM: C:-2.10±0.21; T7:-2.30±0,15(n.s.); T10::-2.02±0.12(n.s.) (** p <0.001 vs. C (* p <0.05 vs. C, n.s. no difference vs. C) t student's test for unpaired data). Conclusion: P*Lc* treatment for 7 and 10 days showed an important and similar lipid-lowering effect (Cho, ChoLDL and TG) without altering blood fluidity and MI in rats fed with a HFD. The decline in one of the main risk factors in the development of atherosclerosis as ChoLDL allows us to suggest P*Lc* as a possible and safe tool in the prevention of cardiovascular disease.

A20

PROGRESS IN THE SEROLOGICAL STUDY OF *Leptospira* spp. INFECTION IN CATS

Poli GL[1], AdrienRüegger M J[2], Carlín M C[3], Prado A[3], Gorordo M L[2], Luciani M E[2], Tártara GP[3], Francois S E[1].
[1]Cátedra de Microbiología;[2]Cátedra de Enfermedades Infecciosas, Facultad de Ciencias Veterinarias de la UNR. Bv. Colón y Bv.Spangemberg, (2170) Casilda, Santa Fe.[3]Méd. Veterinarias de prof. Independiente.E mail: georgilys@hotmail.com

Leptospirosis is an infectious disease, caused by serovars of pathogenic Leptospira species.Felines can acquire the bacteria through the ingestion of infected rodents or contaminated water. Infection in cats is often overlooked as cause of disease. The aim of this work was to determine the rate of seropositivity to *Leptospira spp*. and the frequency of detection of different serovars, using the Microscopic Agglutination Technique (MAT) in cats with and without clinical symptoms. Two hundred seventy blood sera were analysed from cats of both sexes, of different ages and races that included 180 from massive castrations without clinical data and 90 from Veterinary Clinics with clinical data. Blood samples were obtained by venipuncture and the serum kept at -20 ° C. In the MAT technique, reference strains of *Leptospiraspp* were employed: *Leptospirainterrogans Pomona Pomona; L. interrogansIcterohaemorrhagiae*CopenhageniM 20; *L. interrogans Canicola Canicola* Hond Utrech IV; *L. interrogans Australis* Bratislava Jez bratislava*; L. kirschneri* Grippotyphosa Moskva V; *L. interrogans* Pyrogenes Salinem, *L. borgpetersenii* Ballum Castellonis Castellón 3, *L. interrogans* SejroeHardjo type Prajitno Hardoprajitno, *L. interrogans* Autumnalis Autumnalis Akiyami A, *L. interrogans* Bataviae Bataviae Swart and *L. kirschneri* Cynopteri Cynopteri 3522 C.The cut-off point for sera dilution was 1:50. Twenty three reagents to MAT were detected in the total samples studied and a 8.51% seropositivity to *Leptospira spp*. Within these, coagglutinations between serovars were observed in 9 sera (39.13%) and in 14 (60.86%) the following serovars were detected individually: Castellonis, 10 sera (71.42%), Autumnalis, 3 sera (21.42%), Bratislava, 2 sera (14.28%), Grippotyphosa and Icterohaemorrhagiae 1 serum (7.14% in both). The highest titer was 1:200 and was found for Castellonis. Among the 9 sera that coagglutinated, two were from females with clinical suspicion, one from a male without data which gave the highest titers of antibodies to Canicola (1: 1600) and Icterohaemorrhagiae (1: 400) and two from cats that presented renal insufficiency and blood biochemistry compatible with a bacterial infection, in which the highest titer of 1: 200 was found for Castellonis The most frequently detected serovars in cross-reactions were Canicola, Grippotyphosa and Castellonis. The seropositivity rate and the serovars detected coincided with reports worldwide and suggest that leptospirosis in cats is of greater importance than that granted up to now.The cut-off point of the MAT considered to select a suspicious cat is 1: 200, however, in this study a lower cut-off point was established that allowed observing a higher rate of seroreactives. The results obtained suggest that the Castellonisserovar is the main one associated with the infection of cats in the region studied.

A21
ERYTHROCITARY AGGREGATION AND PLASMA FIBRINOGEN: DETERMINATION OF VALUES AND STUDY OF THEIR RELATIONSHIP WITH THE NUTRITIONAL STATUS IN YOUNG MEDICAL STUDENTS

Carubini RF,González CN,Poggi MJ,MengarelliGC, Cinara LC,Bollini AN
Cátedra de Física Biológica. Facultad de Ciencias Médicas. Universidad Nacional de Rosario. Rosario, Santa Fe, Argentina.
E-mail: luis.cinara@gmail.com

The health of the population is influenced by several factors, some of them avoidable, such as sedentary lifestyle and poor diet. These lifestyles related to variations in body mass index (BMI) have been linked in the literature to changes in hemorrhagic parameters in obesity situations. The objective of this work is to analyze the values of the erythrocyte aggregation (EA) and plasma fibrinogen (PF), and their relationship with the nutritional status according to the BMI categorized according to the World Health Organization as normal weight (Nw), overweight (Ow) and obesity (Ob). We studied 35 young people aged 18 to 24 years, all of them university students, without known metabolic pathologies (or pharmacological treatment), classified according to their BMI in categories Nw ($\geq$20 and <25) n = 20, Ow ($\geq$25 and <30) n = 7 and Ob ($\geq$30) n = 8. The EA was studied by an optical method with an instrument that detects changes in the transmission of light through the sample during the aggregation process and the data were analyzed according to the model described by Bertoluzzo et al., obtaining two parameters that estimate: size of the aggregates (T) and speed of aggregation (V). The concentration of PF was measured by Col1 Coagulometer (Wiener Lab). The results were analyzed with ANOVA test and expressed as mean $\pm$ SD, considering it significant p <0.05 = *; p <0.01 = **; p <0.001 = ***, and non significant = ns. Results: T parameter of EA in plasma Nw: 1.39 $\pm$ 0.24, Ow: 1.39 $\pm$ 0.14, Ob: 1.44 $\pm$ 0.15 ns. V of EA in plasma Nw: 0.25 $\pm$ 0.12,Ow: 0.20 $\pm$ 0.05, Ob: 0.18 $\pm$ 0.07 *. T parameter ofEA in Dextran Nw: 1.75 $\pm$ 0.10, Ow: 1.75 $\pm$ 0.09, Ob:1.81 $\pm$ 0.07 ***. V parameter of EA in Dextran Nw: 0.61 $\pm$ 0.25, Ow: 0.56 $\pm$ 0.23, Ob: 0.69 $\pm$ 0.38 *.PF (mg / dl) Nw:336.43 $\pm$ 84.28, Ow: 329.25 $\pm$ 22.02, Ob: 352.08 $\pm$ 85.78 ns. Considering that the EA analyzed in resuspended erythrocytes in their own plasma evaluates both the cellular and plasma factors that affect it, while in the Dextran samples the influence of cellular factors is mainly observed. The results obtained suggest that the differences in EA are due to changes in cellular behavior, possibly attributable to variations in the lipid composition of the erythrocyte membrane (increased cholesterol content in young people with obesity) observed in previous studies.We believe it necessary to reevaluate the data obtained with a larger number of students.

A22
INFLUENCE OF THE LIPID PROFILE ON THE CONTENT OF CHOLESTEROL OF THE MEMBRANE AND THE DEFORMABILITY OF ERYTHROCYTES IN YOUNG MEDICAL STUDENTS WITH OVERWEIGHT OR OBESITY

González CN, Carubini RF,Poggi MJ,Mengarelli GC, Cinara LC, Bollini AN
Cátedra de Física Biológica. Facultad de Ciencias Médicas. Universidad Nacional de Rosario. Rosario, Santa Fe, Argentina.
E-mail:luis.cinara@gmail.com

A sedentary lifestyle and inadequate diet are proven risk factors for the increase of non-communicable chronic diseases. It is known that obesity is a risk factor for cardiovascular diseases since alterations occur in the plasma lipid profile (PLP) and in the blood rheology. In addition, given that the cholesterol content of the erythrocyte membrane (ChoEM) is continuously exchanged with the plasma, alterations in the plasma produce changes in the lipid composition of the erythrocyte membrane. The increase in plasma cholesterol associated with decreased membrane fluidity would modify the erythrocyte deformability (ED) process that can be estimated by filtration techniques. The aim of this paper is to analyze the relationship between PLP, ChoEM and ED in young people with normal weight (Nw), overweight (Ow) or obesity (Ob). We studied 35 young people between 18 and 24 years old without known metabolic pathologies, without pharmacological treatment, classifying them according to their body mass index (BMI) in: Nw $\geq$20 and <25 n = 20, Ow $\geq$25 and <30 n = 7, Ob $\geq$30 n = 8. Total cholesterol, triglycerides and high density lipoproteins (HDL-c) were measured by colorimetry, while low density lipoproteins (LDL-c) were calculated from the Friedewald formula. The ChoEM was extracted with solvents and its concentration was determined by colorimetry. The ED was estimated from the measurement of the rigidity index (RI) by filterability with a computerized instrument that is based on the technique described by Reid et al. The results were analyzed with ANOVA test and are expressed as mean $\pm$ SD, considering it significant p <0.05 = *; p <0.01 = **; p <0.001; not significant = ns. Results: Total cholesterol (mg / dl) Nw: 169.31 $\pm$ 29.60; Ow: 166.71 $\pm$ 32.45 ns; Ob: 150.50 $\pm$ 28.90 ns. HDL-c (mg / dL) Nw: 54.27 $\pm$ 14.85; Ow: 53.14 $\pm$ 16.07 ns; Ob: 41.17 $\pm$ 13.11 ns. LDL-c (mg / dl) Nw: 96.87 $\pm$ 18.49; Ow: 93.23 $\pm$ 16.20 ns; Ob: 86.97 $\pm$ 24.73 ns. Triglycerides (mg / dL) Nw: 100.38 $\pm$ 41.44; Ow: 99.14 $\pm$ 29.19 ns; Ob: 111.17 $\pm$ 56.16 ns. ChoEM (g / l) Nw: 0.59 $\pm$ 0.19; Ow: 0.71 $\pm$ 0.34 *; Ob: 0.81 $\pm$ 0.27 ***. RI (%) Nw: 14.16 $\pm$ 8.89; Ow: 17.38 $\pm$ 5.57 ns; Ob: 15.44 $\pm$ 6.67 ns.The results obtained allow us to infer that young people who are overweight or obese despite having a normal PLP may present alterations in the ChoEM. This variation in the ChoEM should modify the erythrocyte deformability due to changes in the fluidity of its membrane, not being able to be demonstrated from the determination of the RI. That is why we consider it necessary to increase the number of participants and the application of other measurement techniques.

A23

ROLE OF THE ANGIOTENSIN II TYPE 2 RECEPTOR (AT2R) IN THE EVOLUTION OF THE TUBULAR EPITHELIAL RESPONSE TO ACUTE KIDNEY INJURY. USE OF AT2R AGONIST, COMPOUND 21, AS A THERAPEUTIC STRATEGY.

Fussi MF[1], Marquez SB[2],Buono GM[1], Molinas JL[3],Trumper L[1,4],Monasterolo LA[1,4,5], Molinas SM[1,5]
[1]Área Farmacología. Facultad de Cs. Bioquímicas y Farmacéuticas. Universidad Nacional de Rosario. [2]Anatomía y Fisiología Patológica. Facultad de Cs. Médicas. Universidad Nacional de Rosario. [3]Fisiología Humana. Facultad de Cs. Médicas. Universidad Nacional de Rosario. [4]CIUNR. [5]CONICET. E-mail: sara_molinas@yahoo.com.ar

Ischemia-reperfusion (IR) is the main cause of acute kidney injury (AKI). The epithelial-mesenchymal transition (TEM) is a key process in the pathogenesis of AKI. Via AT2R receptor, angiotensin II,promotes vasodilatory, anti-inflammatory and antifibrotic actions and participates in tissue repair. Its role in renal IR is not known. Our aim was to characterize the evolution of renal IR damage and to study the effects of pre-treatment with C21, an AT2R agonist. Male Wistar rats (n=6 per group) were subjected to 40 min of unilateral renal ischemia followed by 1 (I1) or 7 (I7) days of reperfusion. Controls underwent sham operation.Glomerular filtration rate (GFR) was reduced in I1 (-50%, p <0.05) and recovered in I7. Histological studies showed extensive acute tubular necrosis in I1 and marked tubular regeneration in I7. Cortical AT2R mRNA, measured by RT-qPCR, increased in I1 (9.5%) and I7 (22%), associated with an increase in α-SMA (TEM marker) protein abundance evaluated by Western Blot.To elucidate the role of AT2R, rats were pretreated withthe AT2R agonist, C21 (Vicore Pharma, 0.3 mg/kg/day, i.p.) 2 days prior to I1 (I1C) or sham operation (CC). C21 attenuated renal dysfunction caused by IR. GFR (ml/min.100 gBW): C: 1.0±0.04; CC: 1.1±0.2; I1: 0.5±0.02*; I1C: 0.6±0.04*#. FENa+ (%): C: 0.3±0.04; CC: 0.5±0.07; I1: 0.9±0.08 *; I1C: 0.5±0.07. Proteinuria (μg/min.100gBW): C: 2.6±0.07; CC: 2.2±0.2; I1: 3.8±0.2*; I1C: 2.9±0.4; *p <0.05 vs C, #p <0.05 vs I1. The I1C kidneys presented a better preservation of tubular architecture. In addition, C21 prevented (50%, p <0.05) the increase of α-SMA. These results suggest an important role of AT2R activation in the pathophysiology of AKI, decreasing TEM and epithelial damage. Therefore, treatment with C21 could have therapeutic implications in ischemic AK

A24

EFFECT OF CUTTING HEIGHT ON THE PERFORMANCE OF *Paspalum notatum* Fl. IN THE SOUTHERN REGION OF SANTA FE

Martín, B[1]; Anibalini, V[2](ex aequo)
[1]Cátedra de Forrajes, [2]Cátedra de Climatología Agrícola. Facultad de Ciencias Agrarias, UNR, Campo Experimental Villarino, (S2125ZAA) Zavalla, Santa Fe, Argentina. E-mail. bmartin.unr@gmail.com

In the management of pastures, the adjustment of the grazing pressure is an important management tool for an efficient utilization of the forage resource. *Paspalum notatum* is a forage species of summer growth, with excellent productive potential for the southern region of Santa Fe. Therefore, knowing the productive response to different grazing intensities, is a necessary information to design management strategies that allow to obtain an excellent forage yield, high quality and without deterioration of the pasture. The objective of this investigation was to evaluate the effect of cutting height on the production of forage biomass in two commercial cultivars of *Paspalum notatum*. The experiment was carried out in a sector of the experimental field "J. F. Villarino ", Fac. of Cs. Agrarias of the UNR.From November 2014 and until May 2018, two cutting intensities were applied (A = 5cm and B = 15cm height above ground level). The study included 4 productive cycles (2014-15 to 2017-18). Two cultivars of *P. notatum*, Boyero (B) and Pensacola (P) were used.The experimental design used was that of plots in random blocks, with three repetitions. The measurements made in the plots were: number of tillers (nº / m2) and production of aerial biomass (kg DM / ha).The results were analyzed with an ANOVA, and the means of the treatments were compared using the Fisher LSD test (p <0.05).The number of tillers/m^2 showed significant differences between cultivars (p <0.0001-0.0094), between treatments only for the first and third cycle and no significant differences were observed in the interaction (cv * treat.). Boyero expressed the highest productions of biomass, in each campaign. When analyzing the treatment of cutting, there were only differences in the 2015-2016 and 2017-2018 cycles. Response, partly explained, because the pasture is at its production peak in 2015-16 and due to the marked water deficit in the 2017-18 cycle. Interaction was only observed in the 2017-18 cycle, explained by the deficit water conditions of the campaign.

A25

BIOCHEMICAL ASPECTS OF THE KETOGENIC DIET AND ITS APPLICATION IN AESTHETIC AND THERAPEUTIC TREATMENTS

De MedeirosValença A; De Oliveira Neto M, Marinozzi D, Drogo C, Trapé M
Bioquímica, Medicina, Universidad Abierta Interamericana. Rosario. E-mail: luiza_farmacia@yahoo.com.br

Introduction: the ketogenic diet refers to a kind of diet in which proteins and fats are predominant, with significant carbohydrate restriction. In this kind of diet, the ingestion of carbohydrates should not exceed a maximum of 50 grams per day, contributing to a significant improvement in the frequency of seizures, especially in the childhood phase. Objectives: to research the utility of ketogenic diet; to analyze this diet benefits; to associate biochemical characteristics of ketogenic diet with aesthetic and therapeutic treatments; and to give procedural orientations about this diet use. Material and methods: it was applied a survey trough a self-administered questionnaire, previously validated with 55 students of 2nd, 3rd and 4th year of medicinecareer. An informed consent was carried out to all participating students. Thissurvey consisted in seven premises, in which conducted a descriptive analysis. The following propositions were analyzed as a classification criteria: 3) which elements are prevalent in the ketogenic diet, with three response

options: carbohydrates, lipids and proteins; 7) what is the ketogenic diet employment, with three answer options: weight loss, seizure episodes, or both. Results: in a total of 55 students interviewed, 85.45% (47) know what a ketogenic diet is and 14.55% (8) do not know. Most of the interviewees believedthat this diet were safe, accounting for 74.55% (41) and 25.45% (14) didnot believe. Approximately 61.82% (34) students answered that the prevalent element in the diet were lipids, followed by proteins 27.27% (15) and carbohydrates 10.91% (6). We can observe that most of the interviewees think they can follow the diet for 3 months 63.64% (35), followed by 6 months 25.45% (14) and for an indefinite time 10.9% (6). It was detected that 92.73% (51) answered that the ketogenic diet during pregnancy time is not safe, while 7.27% (4) affirmed that it is safe. In addition, 87.27% (48) of the students responded that the ketogenic diet has aesthetic and therapeutic purposes, against 12.73% (7) who believes that the diet goal is only aesthetic. The majority of the students answered that ketogenic diet could be used for weight loss and seizures 52.73% (29), followed by only weight loss 41.82% (23) and only seizures 5.45% (3). Conclusion: it was concluded thataesthetic nutrition is a new field in the health scope, often misrepresented by diets with no medical or biochemistry background, however with the appropriate nutritional care and with an orientationfrom health professionals, we can acquire remarkable benefits, both aestheticsand therapeutics, in a well-planned ketogenic diet.

A26
BLOOD DONORS CHARACTERIZATION IN THE SOUTHERN DISTRICT OF SANTA FE PROVINCE PUBLIC SYSTEM DURING THE PERIOD 2015-2016.

Huanca R[1]; DiTullio L[1,2], Operto A[1], Pires M, Quaglia N[1].
Facutad de Cs. Bioq y Farmac. de la Universidad Nacional de Rosario. 2- Ministerio de Salud de la Prov. de Santa Fe.
E-mail: rhuanca@fbioyf.unr.edu.ar

Blood is an essential resource in health systems. In Argentina, the prevailing donation model is that of replenishment, although in recent years there has been a favorable change towards spontaneous donation. Rosario city has a Regional Hemotherapy Center (RHC) in the province southern area dedicated to the organization of blood collections; and with intrahospital blood banks in some hospitals, including the Centennial Provincial Hospital (CPH), where the replacement model prevails, albeit flexibly. The aim of this study was to describe blood donors who presented themselves in response to RHC's collection call (d-RHC) and those who presented to the CPH for the purpose of replacement (d-CPH) during the months of September to December of 2015. In particular, characterize the deferment indication and its reasons between them both. A cross-sectional epidemiological study was carried made from the information obtained from the pre-donation questionnaires, mandatory filling, settled in the hemotherapy service of the CPH and the RHC during the months September-December 2015. The descriptive analysis was made based on means with their mean standard error (SEM) in the case of quantitative variables and percentages with their 95% confidence intervals (95% CI) in case of categorical variables. The inferences were made based on the use of the Chi square test and the proportions difference test. A 5% alpha error was considered significant.As a result, it was observed thatin the studied period, 735 donors were presented to the CPH and 1285 in response to RHC'scollection call. The donors average age was (mean $\pm$ SEM, years); d-CPH: 31.8 $\pm$ and d-RHC: 33.2 $\pm$ 0.29. Regarding gender, women predominated: d-RHC: 75.0% and d-CPH: 51.1% (p = 0.00001), it was found that among d-CPH there were more deferred donors by risk sexual behaviors respect to d-RHC (p = 0.0001). On the other hand, among the latter, the difference was due to low hemoglobin values founded in the test (p = 0.006) and contingencies at the time of materialize donation as vagal vessel reactions and difficult venous access (p = 0.0001). No differences were found between both donor types for the deferral indication corresponding to recent surgery and tattoo or piercing realization in the last six months. It was concludedthere are differences between the donorgroups studied. In the voluntary donation there were more women and the difference was independent of risk behaviors. These studies should be deepened in order to promote more and more responsibility and awareness for the need of donation.

A27
EVALUATION OF KNOWLEDGE OF THE HEALTH PERSONNEL OF A ROSARIO HOSPITAL, ON BACTERIAL RESISTANCE AS RELATED TO THE PRESCRIPTION OF ANTIBIOTICS

Pizarro A; Scozziero M A; David A; Gambande T, Notary R.
Universidad Abierta Interamericana, Rosario Regional Headquarters, Street Ov. Lagos 944, (2000) Rosario.
Email agustin.pizarro@hotmail.com

Resistance to antibiotics represents a serious problem in health worldwide, which puts the entire society at risk. The objective was to assess the knowledge of physicians about bacterial resistance and their attitudes in daily practice in relation to the prescription of antibiotics. This is an investigation in an anonymous survey that was delivered in a personal way, a random doctor in the Sanatorio de la Mujer, city of Rosario, by a member of the Microbiology Chair of the Universidad AbiertaInteramericana, Regional Headquarters of Rosario. 100 surveys were obtained, with a response rate of 100%. The whole has heard about antibiotic resistance, 95 and 97%, which can affect and affect their patients. 23% rarely prescribed antibiotics for colds and flu and 98% considered that the patient should not stop taking them. 91% consider that it is not only a problem of people who consume ATB frequently and that something can be done to solve it. The 50, 53 and 50%, respectively, does not know if it is resolved before the marine tomb, does not know if it is related to the breeding of animals and considers that it should not be useful in the breeding places. 35% indicate, in general, a time indicator before indicating antibiotics, but 48% say that it often indicates the microbiological sample for etiological diagnosis and 48% always has de-escalation. 48% have a protocol in their center, but 32% often. The 60, 65, 69 and 59% always adjust the type of infection, the focus of infection, the antibiotic time. While 56% rarely, prescribe ATB without medical indication. The specialty of Clinics and Surgical Clinics. But the results, the clinical and surgical doctors. This research, tutored by the Microbiology Chair of the

Universidad AbiertaInteramericana, helps in the start-up task, project of optimization of antibiotic use, structured and multidisciplinary in the Sanatorio de la Mujer school hospital, with an activity of consultancy and advice from the Infectious team that have been maintained over time.

A28
DESCRIPTIVE STUDY OF MEDICATIONS DISPENSED TO SENIOR PEOPLE IN A PHARMACY IN THE CITY OF SAN LORENZO

Scozziero A[1]; Pizarro A[1]; Marzi, M[2];Quaglia, N[1,2]
[1]Facultad de Medicina y Ciencias de la Salud, Universidad Abierta Interamericana. Ovidio Lagos 944, (2000) Rosario. [2]Facultad de Ciencias Bioquímicas y Farmacéuticas, Universidad Nacional de Rosario. Suipacha 531, (2000) Rosario.
E-mail: nquaglia@fbioyf.unr.edu.ar

Introduction: The consumption of several drugs at the same time is frequent in the geriatric population and, although the benefits of an appropriate prescription are unquestionable, the risk of occurrence of adverse effects can be increased due to age-related physiological changes that alter the pharmacokinetics and pharmacodynamics. The IFAsPIAM List is a tool developed in Argentina, organized on the basis of the ATC system, which allows the identification of potentially inappropriate active pharmaceutical ingredients (APIs) in older adults (OA). The objective of this work was to analyze the distribution, according to ATC groups, of the APIs included in medicines dispensed in a community pharmacy in the city of San Lorenzo during the first semester of 2018, and to recognize the PI APIs in each group. Methodology: A cross-sectional study was carried out. A community pharmacy was selected in the city of San Lorenzo whose location and type of service provided was strategic for the proposed objective. The medical prescriptions of patients 60 years of age or older who attended in the period studied were selected. The APIs of the dispensed drugs were registered and subsequently classified according to the ATC system. Using the IFAsPIAM List, the PI APIs in each group were identified. The results were expressed as relative frequencies. The Chi square test was used when it was required. Results: During the period studied, medication was prescribed by prescription to 143 patients. 43.4% (35.1-51.9%) had indicated at least one PI API. The average number of medications per patient was (mean ± SD): 2.3 ± 1.8 (n = 143), in a range of 1 to 10. The average of PI APIs was (mean ± SD): 1.2 ± 0.4 (n = 62). 324 different APIs distributed according to ATC groups were recorded as follows: A (Digestive System): 12.0% (8.8-16.2%); C (Cardiovascular System): 22.8% (18.5-27.9%), M (Musculoskeletal System): 7.7% (5.2-11.3%), N (Nervous System): 20,1% (15.9-24.9%); R (Respiratory System): 8.3% (5.7-12%). The remaining 29% was distributed among other different groups. Regarding the presence of PI APIs within each of these groups, it was found that, while in group C none was PI, in the other prevalent groups the proportion of PI APIs was: A: 10.3% (2.9 -24.2%); M: 68.0% (46.5-85.1%); N: 64.6% (51.8-76.1%) and R: 3.7% (0.1-19.0%). There was a significant heterogeneity between the presence and absence of PI APIs and their membership in these groups (p = 0.00001). Conclusion: The drugs dispensed to the OA presented a heterogeneous distribution with the drugs for the Cardiovascular and Nervous System being the most prescribed. The presence of PI IPAs was relatively greater in the medications for the Nervous System and for the Musculoskeletal. Keeping in mind these particularities will make it possible to investigate more in this subject in order to strengthen the way of approaching pharmacotherapy in the OA.

A29
POTENTIALLY INAPPROPRIATE ACTIVE PHARMACEUTICAL INGREDIENTS IN ELDERLY ADULTS: CROSS-SECTION PILOT STUDY

Scozziero MA [1]; Pizarro A[1]; Marzi M[2]; Quaglia N[1,2]
[1]Facultad de medicina y Ciencias de la Salud, Universidad Abierta Interamericana. Ovidio Lagos 944, (2000) Rosario. [2]Facultad de Ciencias Bioquímicas y Farmacéuticas, Universidad Nacional de Rosario. Suipacha 531, (2000) Rosario.
E-mail: nquaglia@fbioyf.unr.edu.ar

Introduction: Drugs in which the risk of adverse effects exceeds the expectations of clinical benefits are called potentially inappropriate medications. Argentina currently has the IFAsPIAM List, a tool developed by experts that allows the identification of potentially inappropriate active pharmaceutical ingredients (APIs) in older adults (OA). The objective of this work was to estimate the presence of PI IPAs in the prescribed medicines to AM of the city of San Lorenzo in the first semester of 2018 and to link potential factors associated with their use. Methodology: A cross-sectional pilot study was carried out. A community pharmacy was selected from the city of San Lorenzo whose location and type of service provided was strategic for the proposed objective. The medical prescriptions of patients 60 years of age or older who attended in the period studied were selected. The registered variables were: age, sex and prescribed medication. For the identification of the PI IPAs, the IFAsPIAM List was used. The description of the data was made using frequency measurements with 95% confidence intervals and means with their standard deviations. The inferential analysis was performed based on the odds ratio (OR) calculation and the corresponding association tests according to the cases. Results: During the time studied, prescription medication was administered to 143 patients. Their average age was (mean ± SD, years): 75.3 ± 8.6. Women constituted 60.1% (51.6-68.2%) of the patients. No differences were found between the averages of age according to gender. 43.4% (35.1-51.9%) of the total patients had at least one PI IPA prescribed. There were no differences in the average ages of the patients according to whether or not they had an PI IPA prescription. Among the patients with indication of using at least one PI drug (n = 62) in 59.7% (46.4-71.9%) the IFA belonged to the ATC-N group (Nervous System), followed by something else of 20% with PI IPAs of the ATC-M group (Musculoskeletal System). Of all the patients with prescription of an PI IPA of the ATC-N group, in 90% of the cases, approximately, it was a benzodiazepine. The chance of presenting at least one PI IPA prescription was higher in women than in men: OR (M / V): 2.27 (1.13- 4.57). This association resulted at the expense of the use of an IPA of the ATC-N group (p = 0.04). Conclusion: Preliminary results show that about half of the patients had PI IPAs indicated. Women had a greater chance of using PI

medications and in particular with IPAs that act on the Central Nervous System. It is necessary to broaden the exploration carried out in this study and disseminate its results in order to promote effective and safe healthcare for the elderly.

A30
CD47 EXPRESSION ANALYSIS IN PATIENTS WITH B CHRONIC LYMPHOPROLIFERATIVE DISEASES

Ensinck MA, Luján Brajovich M, Matalloni SM, García Borrás S, Piskulic L, Perez S, *Cotorruelo C, Biondi C.
Área Inmunología. Facultad de Ciencias Bioquímicas y Farmacéuticas. UNR. *CONICET. Rosario.
Email: mensinck@fbioyf.unr.edu.ar

CD47 is a transmembrane glycoprotein that expresses ubiquitously in haematological and non haematological tissues. It is also a marker of self-cells, useful for the discrimination of host cells from damaged or foreign cells. Its interaction with the signal regulatory protein alpha (SIRPα) on phagocytic cell serves as an inhibitory signal for phagocytosis, and therefore, CD47 is termed "don't eat me" or antiphagocytic signal. It has been demonstrated higher levels of CD47 on tumoral cells respect to normal cells. Interfering of CD47-SIRPα interaction has revealed improvement in the phagocytic activity of macrophages supporting potential uses in various cancer treatments. The aim of the present work was to analyze the CD47 expression on B lymphocytes (BL) in patients with B chronic lymphoproliferative diseases (B-CLPD). Blood samples from 22 volunteers donors without demonstrable pathology (control group) and 16 B-CLPD patients from the Haematological service of the Hospital Provincial del Centenario were analized. The protein expressions on cell surface were verified by flow cytometry (FCM) (FACSAria II). 50 μL of whole blood were incubated with 5 μL of monoclonal antibodies (CD45 FITC, CD47 PE and CD19 PE-Cy7) for 30 minutes. Data were analyzed by FACSDiva (BD) software. CD47 expression levels were evaluated by the relation between the CD47 fluorescence intensity corresponding to BL respect to non B lymphocytes (nonBL). The mean value (standard deviation) corresponding to the BL/nonBL relation was 1.59 (0.53) for the group of patients and 1.18 (0.15) for the control group. The Student t test was used for comparing the obtained values. The mean of the relation BL/nonBL from patients with B-CLPD was significantly higher (p=0.004). The incorporation of CD47 into the recommended antibody panels for the flow cytometric diagnosis and classification of hematological malignancies might be a novel promising target considering the importance of CD47-SIRPα interaction as a specific myeloide checkpoint and the relevance as therapeutic targets. Preclinical studies indicate CD47/SIRPa-blocking therapies are effective against a broad range of cancers, and ongoing clinical trials will determine their efficacy as single agents and as combination therapies. The application of these therapeutics extends beyond human cancer, and additional preclinical and clinical studies will reveal their benefit to patients.

A31
CHARACTERIZATION OF BLOOD COLLECTIONS ORGANIZED AT ROSARIO CITY BY THE REGIONAL HEMOTHERAPY CENTER OF THE SANTA FE SOUTHERN AREA DURING THE MONTHS OF SEPTEMBER TO DECEMBER 2015

Huanca R[1]; DiTullio L[1,2], Operto A[1], Pires M, Quaglia N[1].
Facutad de Cs. Bioq y Farmac. de la Universidad Nacional de Rosario. 2- Ministerio de Salud de la Prov. de Santa Fe.
E-mail: rhuanca@fbioyf.unr.edu.ar

Blood donation by spontaneous donors is recognized as crucial for the safety and sustainability of national blood supplies. The number of donations increases considerably in communities committed to voluntary and habitual donation. External Blood Collections (EBC) are organized by the Regional Hemotherapy Center (RHC) and are performed outside the physical plant of these institutions that meet the same technical conditions and contribute to the availability of blood products to cope to the demand. Santa Fe province has two Regional Hemotherapy Centers. These constitute nodes of a programmatic area independent of hospital services where the stages of donation, blood products preparation, storage and distribution are carried out. The aim of this study was to characterize EBC's donors in terms of age, sex, study level, deferment indication and main reasons for it during the months of September to December 2015. A cross-sectional study was carried out starting from of the information obtained from the questionnaires, whose filling is mandatory, addressed to the donors settled in the RHC. A circumscribed cut was made to the collections organized in Rosario city, whose attendance exceeded 50 donors. The descriptive analysis was made based on the means with their mean standard error (SEM) in the case of quantitative variables and the relative frequencies with their 95% confidence intervals for the categorical variables. The inferences were made with the test for the comparison of means, Chi-square and difference test of proportions as appropriate. A 5% alpha error was considered significant. It was observed that during the study period, five collections (C) were performed in Rosario city according to the specified criteria. The donors mean ages were (mean ± SEM, years): C1: 31.7 ± 0.16 (n = 53); C2: 32.1 ± 0.14 (n = 70), C3: 26.9 ± 0.11 (n = 72), C4: 31.8 ± 0.18 (n = 62) and C5: 31.0 ± 0.18 (n = 61); p = 0.002. Regarding sex distribution, it was found that 77.0% (72.0-81.6%) were women and the rest male. No differences were found according to sex in the different collections. Analyzing study level it was found that vast majority (262/312) had university or university studies completed and / or in progress; however, there are no differences between the different collections (p = 0.0001). The deferral indication does not vary between collections and the relative frequency of the same was 16.4% (12.6% -21%). The third part of differences were related to diseases in course or in study and recent medical or surgical treatments. External blood collections have characteristics that are their own, however these would not affect the homogeneity and quality expected in obtaining safe blood.

A32
CD47 EXPRESSION ON HUMAN ERYTHROCYTES OF DIFFERENT AGES

Ensinck MA, Luján Brajovich M, García Borrás S, *Cotorruelo C, Biondi C.
Área Inmunología. Facultad de Ciencias Bioquímicas y Farmacéuticas. UNR. *CONICET. Rosario.
Email: mensinck@fbioyf.unr.edu.ar

CD47 expression on red blood cells (RBCs) is an antiphagocytic signal for the macrophages. The senescence process of these cells involves a series of biochemical changes leading to greater phagocytosis susceptibility. The CD47 diminished expression during RBCs aging would be an alternative mechanism for clearance of RBCS. The aim of this study was to evaluate the expression levels of CD47 by flow cytometry (FCM) on RBCs population from different ages. CD47 mean intensity fluorescence (MIF) analysis was performed by FCM based on the FSC (cell size) versus SSC (cell density) parameters to study RBCs populations of different sizes and density. Given that FSC represents cell size and SSC internal cellular complexity, we assume that the population of senescent RBC (SeRBC) is located in the < FSC and > SSC and the young RBC (YRBC) population in >FSC and < SSC. ACD anticoagulated blood samples from normal volunteer donors (n=30). Flow cytometric analyses were performed on a FACSAria II flow cytometer using the FACSDiva software for acquisition and analysis. 50 μL of 0.2% PBS RBCs suspension were incubated with 5 μL of anti-human CD47 PE in darkness at room temperature for 30 min. After staining, cells were washed twice and resuspended in 0.5 mL PBS and analyzed by flow cytometry. The CD47 MIFs (standard deviation) were significantly lower for SeRBC 11010.0 (882.9) compared with YRBC 11965.0 (945.7) (p<0.001). In addition, the comparative analysis evidenced a great diversity in the expression of surface CD47 antigen leading to the distribution of cells in numerous subpopulations of SeRBC and YRBC. The median of CD47 positive cells % (standard deviation) was analized in different MIF regions: SeRBC R1 5.75 (5.5), SeRBC R2 92.7 (7.4), SeRBC R3 1.3 (0.95) and YRBC R1 7.55 (4.95), YRBC R2 92.35 (5.05) and YRBC R3 0.05 (0.15), were R1 represent the higher expression of CD47, R2 an intermediate expression and R3 the population of lower MIF for CD47. The different subpopulations YRBC R1 with SeRBC R1, YRBC R2 with SeRBC R2 and YRBC R3 with SeRBC R3 were comparated. The median of CD47 YRBC R1 positive cells % was significantly higher than the value obtained for SeRBC R1 (p<0.05). The median of CD47 YRBC R2 positive cells % showed no significantly different compared to the value obtained for SeRBC R2 (p>0.40). The median of CD47 YRBC R3 positive cells % was significantly lower than the value obtained for SeRBC R3 (p<0.0001). The oxidative changes characteristics of the senescence process induce conformational modifications on CD47 triggering phagocytosis signals. These changes may enhanced splenic clearance of RBCs during erythrocyte aging.

A33
CHARACTERIZATION OF SELF-MEDICATION PRACTICE IN MEDICAL STUDENTS

De Oliveira Neto M, De Medeiros Valença A, Marinozzi D, Drogo C, TrapéM
Bioquímica. Medicina. UniversidadAbierta Interamericana. Rosario. E-mail:moises_oliveira2@hotmail.com

Self-medication has been recognized as a frequent practice in the population, which can conduct to a poor diagnosis and to the appearance of undesirable effects. Biochemistry is an annual course of the second year (sophomore)that promotes knowledge through disease prevention and health promotion. The objectives of this study were to characterize the self-medication practice, type of medication, with or withoutprescription (OTC over the counter) and frequency; self-medication reasons, time of medication use and identify the storage places, in medical students who attended the Biochemistry course. For that, we gave a self-administered, voluntary and anonymous survey, previously validated. Fifty-five students of 2nd, 3rd and 4th year of Medicinecareer were interviewed. An informed consent was carried out to the students. The interview contains eight questions. A descriptive analysis was conducted and percentages (%) and frequencies were determined. Results: 91% (50) of the interviewed students answered that they self-medicate occasionally and 9% (5) always self-medicate themselves. 85% (47) answered that sporadically they took antibiotics without prescription, while 15% (8) not. The self-medication was distributed in: analgesics 49% (27), antibiotics 29% (16), anxiolytics 11% (6) and other 11% (6). 73% (40) indicated that they self-medicate for practically and 27% (15) because they did not want to goto the doctor. 65% (35) self-medicate up to 3 days, 24% (13) up to 1 day and 13% (7) self-medicate more than 15 days. The drugs were stored in: bedrooms 53% (29), living rooms 25% (14), kitchens 15% (8) and bathrooms 7% (4). Two questions were omitted in this research analysis, because all students stated that they knew what self-medication is and because they had practice self-medication. It wasnoticed that self-medication was very common. The highest percentages of drugs used were analgesics, which can be prescription or non-prescriptionmedicines. In the case of antibiotics, which are prescription drugs or archived prescription, a large percentage of the interviewerscould purchase the drugswithout medical prescription. Moreover, some students used psychotropic drugs without prescription. In relation to the displayed storage places, there are two dangerous places: the kitchen and the bathroom, due to high temperatures and high relative humidity. It is proposed to conduct lectures in order to work on the self-medication problem in medical students,so as to change this kind of practice.

A34
CHARACTERIZATION OF THE OXIDABLE CARBON OF MULBERRY (*MORUS* SPP.) LEAVES DURING THE PERIOD 2014-2015

Ronzano P, Smacchia AM
Laboratorio de Bioquímica del Rumen. Cátedra de Química Biológica. Facultad de Cs Veterinarias. CIUNR. U.N.R.
E-mail: paronzano@yahoo.com.ar

The availability of the carbon fraction present in the food that enters the rumen, determines the microbial activity that develops during digestion, so it is of interest to characterize the fractions present and quantify the availability of carbon in food for livestock. A previous study, on three cuts of mulberry leaves collected in spring, revealed fluctuations in the concentrations of the fractions analyzed. The objective of the present work was to characterize the carbonaceous fractions of mulberry tree leaves (*Morusspp*) throughout the productive period. The leaves were collected manually, once a month, from September 2014 to May 2015. Samples were dried at 60° C, ground with Willey mill and sieved (2mm sieve). The oxidizable carbon (Cox) was determined in triplicate, using methods of: i) dry combustion: LOI low temperature combustion (2 h, 360^oC) and ii) wet combustion: Walkey and Black (WB) and Harris (HS), which differ from each other, by the concentration of reagents used: $K_2Cr_2O_7$: 1 vs 0.25N and Fe (SO_4) 1 vs 0.1N, respectively. The results, expressed in g% Cox, were analyzed by ANOVA, and LSD test ($p < 0.05$). The Cox techniques employed showed significant differences throughout the period studied. LOI showed a gradual decrease in Cox as time progresses. WB showed an increase in October that remained until March, showing a decline in April and May. HS presented fluctuations throughout the period analyzed, ranging between 10.24 ± 0.30 and 12.15 ± 0.09. No significant differences were observed between analytical repetitions. These results show that mulberry leaves present a high percentage of carbon compounds (LOI: $76.47 \pm 1.34\%$), with a fraction easily available for ruminal microorganisms (HS: $11.54 \pm 0.13\%$) that it does not present great variations over time. The results of this work are a contribution that value mulberry leaves as a forage resource.

A35
GLUCOSE LEVELS MODULATE PPARα AND PPARγ EXPRESSION IN MACROPHAGES STIMULATED WITH *Mtb* ANTIGENS AND ADDED OR NOT WITH CORTISOL

Fernández, RDV, Díaz, A, Bongiovanni, B, D'Attilio, L; Hails, E, Bottasso, O y Bay, ML.
Instituto de Inmunología Clínica y experimental de Rosario (IDICER CONICET-UNR); Facultad de Ciencias Médicas, UNR.
E-mail: fernandez@idicer-conicet.gob.ar

Tuberculosis (TB) is the second leading cause of death by an infectious agent, *Mycobacterium tuberculosis* (*Mtb*), with WHO reports indicating a 15% of newly cases attributed the type 2 diabetes mellitus (T2DM) association. Previously we reported that patients with the TB+T2DM comorbidity showed a more pronounced adverse immune-endocrine profile than those with TB alone. As such, we investigated the effect of hyperglycemia [D-Glucose –Glc- 5 mM (physiological dose) or 10, 20 or 40 mM (supraphysiological doses)] and cortisol-induced stress (0.1 or 1 μM) on innate immune responses, i.e., the production of IL-1β and the expression levels of mRNA PPARα and PPARγ in 24 h cultured macrophages (Mf) derived from THP1 cell line stimulated with *Mtb* (strain H37Rv killed by γ radiation –*Mtbi*). *Mtbi* stimulation significantly increased IL-1β levels regardless of Glc doses added to cultures (p<0.005). Cells also exposed to cortisol showed low IL-1β levels, independently of Glc doses (p<0.008). In stimulated cultures, treated or not with cortisol, the levels of IL-1β correlated negatively with Glc concentrations (p<0.01). The quantification of PPARγ and PPARα (immuno-inflammatory modulators) in cultures stimulated without cortisol, showed an increased expression of PPARα (p <0.01) with no PPARγ changes, except cultures with higher glucose dose (p<0.01). Cortisol treatment led to increased and decreased levels of PPARγ (p<0.01) and PPARα (p<0.01), respectively. Both transcripts correlated positively with supraphysiological Glc doses (p<0.04) while the expression of PPARγ was negatively associated with IL-1β (p<0.01), in stimulated and cortisol-treated Mf cultures. In cortisol-stress the Glc-associated increase in PPARγ expression levels together with decreased levels of IL-1β and PPARα may be unfavorable for mycobacterial clearance.

A36
DETECTION OF HEMOPARASITES IN DOGS WITH ISCHEMIC DERMOPATHIES

[1]*TártaraG,*[1]*CaneV,*[2]*Negro P,*[3]*Alvarez S,*[1]*Pereyra N.*
[1]*Microbiology and* [2]*Parasitology, Facultad de Ciencias Veterinarias, Universidad Nacional de Rosario;* [3]*Private professionalactivity, Resistencia Chaco. E-mail: npereyra@medax.com.ar*

Ischemic dermatopathiesare caused by the interruption of oxygenated bloodcorrect flow; they may be associated with immunological responses, genetic factors or infectious agents. These lesions have been described in *Babesia*, *Ehrlichia*, *Anaplasma* and hemotrophic mycoplasmas (HM)diseases. Because the generation of crioaglutinins, HM cause vasculitis. Also, HM adhesion proteins interact with erythrocyte membrane β-actin and with vascular endotheliumactin cytoskeleton, and produce damage with subendothelium exposure. Stress and coinfections can trigger HMclinic in carrier animals. The aim of this report was to detect hemoparasites including HM in dogs with ischemic dermatological lesions, with the future purpose of check the association between this pathology and HM. Twenty dogs with ischemic skin lesions were studied. Search ofhemoparasites wasmadeby observation ofcolored blood smears (HM compatible structures or HMCE, *Hepatozooncanis* and *Anaplasma platys*) and by antibody detection throughmembrane immunochromatography(*Ehrlichiacanis*). Results of doxycycline treatment (and toltrazuril in one*Hepatozoon*infected dog) wereregistered. HMCE was detected in 95%, *Hepatozooncanis*in 5%, Anaplasmaplatysin 10% and *Ehrlichiacanis*in 60% of

dogs.Coinfections were also detected: ECMH plus*Erlichiacanis*in 55%, ECMH plus *Hepatozooncanis*in 5% and ECMH plus *Anaplasmaplatys*in 10% of dogs. All dogs responded to the treatment performed; doxycycline is indicated for MH but also for *Anaplasma* and *Ehrlichia*, however in cases where only HMCE were detected, the lesions subsided as well.

A37
DEMOGRAPHIC STUDY IN DOGS: PERCENTAGE OF MALES AND FEMALES BORN

Sorribas C, Pirles M, Schiaffino L, Borsarelli A.
Cátedra de Clínica de Animales de Compañía. Facultad de Ciencias Veterinarias, UNR. E-mail: monica_pirles@yahoo.com.ar

Taking into account the need to study the growth and population control of the canine species in large cities, it is important to know the percentage of males and females born to be able to organize and execute a complete plan of sterilizations, avoiding an excessive growth of stray dogs, and to reduce the transmission of zoonotic diseases and accidents due to bites. Over a period of 3 years in the city of Rosario, Argentina in a private clinic dedicated to canine and feline reproduction, 916 births were studied in order to determine the percentage of males and females born in the canine species Canis vulgaris. The inclusion criteria were females to give birth in perfect health, with the complete sanitary plan, both vaccinal and internal and external antiparasitic, all fed with first quality balanced feed, and without any type of treatment during the gestational period. Bitches from 49 different breeds were included, from which a total of 4,355 puppies were born, 4.75 puppies per litter, 2,192 males (50.33%) and 2163 (49.66%) females. It is concluded that there are no statistically significant differences in the percentage of males and females born in the species.

A38
HISTOLOGICAL AND BIOCHEMICAL EVALUATION IN A MURINOUS METABOLIC SYNDROME MODEL

Di Carlo B[1], Barranco MM[1, 2], Sigal N[1], Habib MJ[1],Sylvestre Begnis, M[1], ZecchinatiF[3], Villanueva SSM[3],Perdomo V[4,2]; GarcíaF[1, 2]
[1]*Laboratorio de Fisiología Metabólica, Facultad de Cs. Médicas, Universidad Nacional de Rosario.*[2]*CONICET-Rosario.* [3]*Instituto de Fisiología Experimental-CONICET.*[4]*Cátedra de Parasitología, Facultad de Cs. Bioquímicas y Farmacéuticas, Universidad Nacional de Rosario. E-mail: fgarcia@fmedic.unr.edu.ar*

Administration of diets with 40% calories of bovine fat is a widely recognized model to mimic in rodents metabolic alterations observed in the human metabolic syndrome. The objective was to evaluate histological changes in different tissues of mice fed with high fat diet. Male mice C57BL/6 of 5 weeks old were randomly divided (n=10/group) and received standard diet (Control-C) or high fat diet (HFD) during 16 weeks. At the end of the treatment, an insulin tolerance test (ITT) was performed, animals were anesthetized, sacrificed by cardiac puncture and the blood obtained was used to measure biochemical parameters. For the histological analysis jejunum, liver, kidney and epididymal fat were removed, were fixed with formaldehyde, stained with hematoxylin-eosin, visualized by optical microscopy and analyzed with software ImageJ. The mice that received HFD showed a significant decrease in the maximum percentage of glucose clearance (%), evaluated with the ITT, (mean $\pm$ SD, HFD: 7.1 $\pm$ 2.9, C: 16.2 $\pm$ 7.5, $p < 0.05$) and a significant increase in the weight of epididymal fat (% relative to body weight) (HFD: 3.1 $\pm$ 0.7, C: 1.3 $\pm$ 0.3, $p < 0.0001$). The HFD mice showed (mg/dl) hyperglycemia (HFD: 133.4 $\pm$ 32.9, C: 114.7 $\pm$ 27.6, $p < 0.05$), hypertriglyceridemia (HFD: 104.5 $\pm$ 39.1, C: 77.7 $\pm$ 39.5, $p < 0.05$) and hypercholesterolemia (HFD: 203.1 $\pm$ 61.92, C: 110 $\pm$ 25.32, $p < 0.0001$). The histological evaluation of animals treated with HFD showed in adipose tissue, typical "crowns" of macrophages around adipocytes and an increase in adipocyte`s size (mm) (HFD: 0.32 $\pm$ 0.008, C: 0.26 $\pm$ 0.038, $p < 0.01$) . In jejunum, a decrease in the height of the villi was observed in HFD animals (mm) (HFD: 0.23 $\pm$ 0.04, C: 0.20 $\pm$ 0.04, $p < 0.05$) and an increase in the number of goblet cells (cells / field), (HFD): 27.4 $\pm$ 8.7, C: 19.4 $\pm$ 7.1, $p < 0.05$). The liver of the HFD animals showed infiltrates of focal fat in small and medium vacuoles and at the renal level lipid deposits were observed. These findings constitute the starting point to study the origin of the inflammation and the cellular alterations produced by the metabolic syndrome

A39
HEMORHEOLOGICAL ALTERATIONS ON GLYCATED ERYTHROCYTES BY PROPOFOL TREATMENT

Batista da Silva MV[1], Rocha Barreto D[2], Alet N[2,3], Alet AI[1], Riquelme B[1,4]
[1]*Área Física, Facultad de Cs. Bioquímicas y Farmacéuticas (UNR), Rosario.* [2]*Facultad de Cs. Médicas (UNR), Rosario.* [3]*Hospital de Emergencias Clemente Álvarez (HECA), Rosario.* [4]*Grupo de Física Biomédica, Instituto de Física Rosario (CONICET-UNR), Rosario.E-mail:mbatista@fbioyf.unr.edu.ar*

Previous studies have shown that drugs commonly used in anesthesia, such as propofol, can alter the aggregation of human red blood cells (RBCs). Consequently, anesthesia could cause complications in patients with underlying hemorheologicdiseases such as diabetes. In this pathology, due to the prolonged action of glucose, the electric chargeon erythrocyte is diminished, rendering alterations in the aggregation, which leading to microvascular complications. To evaluate the action of propofol in erythrocyte with alterations in surface electric charge, an *in vitro* glycation test was performed. For this, healthy donor blood samples (n = 2) obtained by venous puncture and anticoagulated with EDTA were used. The RBC were washed and *in vitro* glycated with equal volumes of 0.25%, 0.5% and 1% glucose solutions in phosphate buffered saline with 1% albumin (PBSA). Incubation was carried out for 5 hours at 36.5 °C

under controlled stirring. After the glycation step, the samples were washed and incubated for 30 minutes with propofol in the same conditions. In both cases, the Control consisted of a sample with the same treatment replacing the glucose and propofol solutions with PBSA. The morphology of the RBCs and their aggregates was quantified by means of the digital analysis of microscopic images obtained by triplicate. The isolated cell coefficient (CCA) and the S parameter defined in previous works were determined. The time it takes to reach half of the maximum aggregation ($t_{1/2}$) was determined using an optical chip aggregometer, and the viscoelastic erythrocyte parameters were measured with the Erythrocyte Rheometer. The amount of rouleaux observed in the glycated RBC samples was greater than in the corresponding ones treated with propofol, independently of the glucose concentration used during glycation. Although the difference would not be significant, it could be observed that the CCA would tend to increase with respect to the corresponding control, this effect being more evident for the samples treated with the anesthetic (p> 0.20, t-Student). Similarly, the values of $t_{1/2}$ would indicate that the RBC glycated and treated with propofol would be aggregating more quickly than the glycated ones, although this difference is not significant (p> 0.20, t-Student). When analyzing the deformability index, it could be observed that it varies significantly between the Control and the RBC treated with propofol (p <0.001, t-Student). Finally, it was observed that the *in vitro* modeling of diabetes followed by propofol treatment would significantly alter the haemorrheological properties of RBC. It should be noted that this is a preliminary study, which should be continued since it would be important to avoid possible postoperative microvascular complications in diabetic patients.

A40
EVALUATION OF OXIDATIVE STRESS BIOMARKERS IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

Galli MV[1], Bona, N[1],Altamiran G[1],Pezzarin E[1], Basiglio CL.[1,2], Rossi MF[1],Monje AL[5],Bearzotti M[3],Álvarez C[3],Balbi B[3], Svetaz MJ[3], Daniele SM[1], Arriaga S[1,4],Pelusa HF[1]
[1]Área Bioquímica Clínica. [2]Instituto de Fisiología Experimental (IFISE-CONICET). [3]Laboratorio Central Hospital Provincial del Centenario. Facultad de Ciencias Bioquímicas y Farmacéuticas. UNR. [4]CIUNR.[5]Servicio de Nefrología. Hospital Provincial del Centenario. Facultad de Ciencias Médicas. UNR. E-mail: victoriagalli93@hotmail.com

It has been postulated that oxidative stress (OE) plays an important role in many pathologies including atherosclerosis, inflammatory and autoimmune diseases, like multiple sclerosis, rheumatoid arthritis and systemic lupus erythematosus (SLE). SLE is aprogressive,chronic autoimmune disease, with a broad spectrum of symptoms. Although the pathogenesis of SLE is multifactorial, its inflammatory nature implicates an oxidativebackground that contributes to dysfunction of immune cells, production of auto-antigens and reactivity of auto-antibodies. In many cases, OE induces anincrease inthe levels of reactive species, mainly malondialdehyde (MDA), the final product of lipid peroxidation, or a decrease in the levels of antioxidant molecules. The aim of our work was to evaluate the OE in SLE patiens with systemic activity (A). We studied 27 patients whose activity was determined by thepresence of anti-native DNA and/or anti-C1q antibodies (normal value: title <10 UI/ml) and/or decrease of C4 component of the complement system (normal value: 20 – 40 mg/dL). The control group was conformed by inactive SLE patients (I; n=16), defined by the absence of anti-native DNA and anti-C1q antibodies and normal values of C4. Serum samples were used throughout to perform anti-native DNA (IFI), anti-C1q (ELISA), C4 (immunoturbidimetry), thiobarbituric acid reactive substances (TBARS; pmoles of MDA/mL) and activity of antioxidant enzymes superoxide dismutase (SOD; U/g Hb) and catalase (CAT; U/g Hb). The results [median (range)] for A and I were, respectively: TBARS: 40 (2-172) vs 24 (0-83); SOD: 1104 (63-3181) vs 1126 (106-3380) and CAT: 31 (6-108) vs 32 (9-97). Statistically significant differencesbetween both groups were found only for TBARS (p=0.04). We can conclude that active SLE patients show a pro-oxidant state for which the thus triggered antioxidant response is insufficient. This could be due to the fact that when the disease remains active for a long period of time, the antioxidant defenses, SOD and CAT among the main ones, become depleted, thus decreasing the ability of the body to react to the oxidative challenge. The production of reactive substances, estimated by the TBARS method, could constitute an additional biomarker of systemic activity in LES.

A41
EVALUATION TO IMPROVE LEARNING. THE BIOCHEMISTRY COURSE AS A MODEL

Drogo, C[1], Trapé, M[1]; Rodríguez León N[2]
Medicine. Universidad Abierta Interamericana. Ovidio Lagos 944. [2]Instituto Universitario Italiano de Rosario. Crespo 843 (S2000BUG) Rosario. E-mail: cfdrogo@gmail.com

Introduction: Biochemistry course is set on the 2nd year in Medicine career at the Interamerican Open University. A New Evaluation Model was designed (NME) with a focus of interpretative and critical interest, ranking self-evaluation and co-evaluation as an active learning strategy. Objective: validate a systematic evaluation model focused on competencies to improve the academic performance. Material and methods: the professors of the course designed an NME, which included diagnostic, formative and final evaluation, encouraging self-evaluation and co-evaluation. Rubrics and portfolios were incorporated for lab meetings, laboratory reports and group discussion of clinical cases.
To determine the academic performance according to the final grades obtained, an analysis of variance was made -ANOVA- and the Tukey post test was applied to identify the groups where the difference was significant. We studied the data of the sophomore students of Medicine who attended Biochemistry course, 2015 cohorts -60 students; 2016, 66 and 2017, 57. Results: ANOVA, significant difference. Multiple comparisons HSD of Tukey Dependent variable: Final Grade.
Difference of means between 2015-2016 was -1.06* and Typical Error 0.29 with sig 0.001 and with confidence interval 95% (lower Limit -1.76 and Upper Limit -0.36). Between 2015-2017 was -1.52* Typical Error 0.30 sig 0.000 (lower Limit -2.25 and Upper Limit -0.80) According to the statistical analysis all the comparisons were significant, except between 2016-2017.

* The difference in means is significant at level 0.05.
Conclusion: There was an increase in obtaining higher grades by the students when NME was applied compared to 2015 without the application of the NME.
Therefore, we propose the implementation of this model in order to improve competencies and active learning

A42
FAMILY AND TEACHERS: THEIR ROLE IN THE CONSTRUCTION OF THE ORAL HEALTH IN PRESCHOOL.

Gaiteri M, CopelloM.N, Condis G, Salas A
Social odontology's area and basic science. E-mail:monicabeltramone@yahoo.com.ar

The family is the smallest structural component in the society but one of the most significant too, due to here begins the education of a person. In the school context, the teachers are fundamental too, in order toeducation them in the oral health through the routine and the relationship with the students. They have the possibility to involve the students in the formation's process of good habits in health oral. The process socialization children's are developed by the school and its activities. We could add at these actions the family and extra-family context (possibilities of life in community, interaction between equals, develop of activities and habits of children's health). Our objective are: understand the play of the socialization in construction's process of health, illness and care of children's health in preschool kids. It is about a descriptive and transversal study. The population which was studied is formed by 222 kids who are four or fiveyears age. They went whit their parents, to two kindergardens which are located in the center and northwest districts in Rosario city. Two validated questionnaires (ECOHIS) were applied, one addressed to parents and another to teachers .For the result, it's used the OMS' opinions in charge of two qualified examinations (Kappa 0.85). We used the tooth decay's index ceo-d and ceo-s which components are decayed, indicated extraction, filledconform to a tooth and surface. We obtain the statistical test with the SASprogram version 9.2. The tooth decay's process is presented with an average value of 2.60 ceo-d index and 5.5 ceo-s index. If we compare the ceo-d index in both schools, there is a difference in the ceo-s index (p=0.0001). The relationship with parents has an influence in the oral health, and it is showed in how the family has changed due to dental problems (p=0.04), If they have felt guilt (p=0.0004), the familiar economy (p=0.003) and the during of problems and the time they reach at a solution (p=0.0001). The teachers believe that parents don't follow their indications in a 67%. They believe that parents worry about the care of their children' health in a 45%. The teachers recognize the school as a health area (85%) but they think too there is a lake of educated task in dentists in their professional practice in a 55%. To conclude, the issues and dental treatments in children make feel guilty in parents, influence in the economy and in the time. These dimensions are perceived by them as negative for the quality of life of their families.On the other hand, teachers believe that parents don't follow their indications and this is, precisely which allows to identify possible limits in the socialization's process.

A43
HUMAN PREMOLARS: CUSPIDEA HEIGHT AND MARGINAL EDGES, TECHNIQUE BY WEAR.

Zaffaroni M, Cueto S, Kohli A.
Escuela de Odontología[1], Escuela de Medicina[2]; Inst. Univ. Italiano de Rosario (IUNIR). E-mail: marcelazaffaroni@hotmail.com.

These teeth have an occlusal face with the cusps separated by grooves dug into the enamel, which adopt a shape and disposition to differentiate between the upper and lower premolars. Its function is to crush the food confined by the marginal edges, these are elongated reliefs of enamel with triangular section that decrease from front to back. The enamel of in the dental crown is deposited alternating a period of greater mineralization followed by another with lower quality in the calcification leading to the appearance of histologycal structures called Retzius striae. Our objective was to mathematically measure the height of the cusps, corroborate their your maximum and minimum, in addition, it to analyze qualitatively the amount and thickness of the Retzius striae. Descriptive and relational statistical analysis between groups with the Mann- Whitney test / bilateral analysis.
Healthy upper and lower premolars, of both sexes, with prior consent, were included. Extracted, the buccal (V) and palatal (P) or lingual (L) cusps were measured. A horizontal one was drawn at the base of each cuspis and a perpendicular a the first by to obtein the height in mm. Then, the roots were immobilized with plaster and they were spent by V, P and L in the mesio-distal sense, preserving the central part. The remnant was reduced to a transparent sheet with the wear technique to observe them with optical microscope in minor and higher increase. Thirty teeth: 15 higher (**group 1**) and 15 lower (**group 2**); in **group 1**: 33% male; age 15 ± 7.6; average height of the cusps: V = 4.067 mm, P= 3.233 mm (p = 0.001). With minor increase, the marginal edges M and D visible: 80% and 73% and not visible due to excess wear 20% and 27% respectively. With higher increase, in all marginal edges, the striae abundant and thin were observed. In **group 2**: 53% men, age 18 ± 9; height V = 3.933 mm and L = 2.300 mm (p <0.0001). Marginal edges M and D visible: 80% and 67% and not visible due to excess wear 20% and 33%, also in this group were observed abundant and thin striae.
In the upper premolar group, the minor age and the female sex predominated in opposition a the lower premolar group. We observed that high and low cusps coexist within the same group, but when we compare both groups, the high ones are vestibular and the minor ones are palatal and lingual. Without difference between groups by to the visibility of marginal edges and Retzius striae, we think that thes histologycal structure abundant and thin could originate a glaze of greater hardness in said the edges.

A44
HEALTH PERCEPTION, CHRONIC DISEASES AND ROUTINE CLINICAL EXAMS IN A SAMPLE OF WOMEN OF CONCORDIA.

Bertola Compagnucci A[1,2], Dagatti MS[1], Nieto C[1], Isern G[3], Baroni MA[1], Iwanow P[1], Pezzotto SM[1,2].
[1]Metodología de la Investigación Científica, Facultad de Ciencias Médicas, Universidad Nacional de Rosario. [2]IDICER-CONICET. Rosario.[3]Facultad de Ciencias Económicas y Estadística.Universidad Nacional de Rosario. E-mail: spezzot@unr.edu.ar

Through a descriptive cross-sectional study in a sample of 82 women from Concordia, their perceived health status and some factors related to it (demographic characteristics, chronic diseases and routine clinical exams) were analyzed. Three groups were conformed according to their perceived health status: poor or very poor, good, and excellent or very good. Data were analyzed applying mean±standard deviation, ANOVA, Chi-square tests, and multiple correspondence analyses (MCA). Mean age was 39.8±6.8 years, without a significant difference between groups. When *applying bivariate analysis, n*o statistically significant differences were found between groups regarding their perceived health status. Among women who suffer chronic diseases, 30.8% perceive their health as poor or very poor, 38.5% as good, and 30.8% as excellent or very good. These proportions are 7.8%, 43.8% and 48.3% in those without chronic diseases, respectively (p = 0.050). Perceive their health as excellent or very good 38.5% of women who work exclusively at home (housewife) and 48.1% of those working outside the home (p = 0.421); 36.7% of those attending public health-care services, 43.6% of those attending private health-care services and 69.2% attending both types of services (p = 0.276); 48.4% of those who underwent routine clinical exams in the last year and 33.3% of those who once or never performed such control (p = 0.091). However, when performing the MCA, two directions of maximum variability could be defined. Regarding the perceived health status, it was found that low values of the two dimensions are associated with perceptions of good and with poor or very poor health, indicating that these perceptions are more associated with women who attend private or both (public and private), who do not work outside the home, who underwent routine clinical exams in the last year, and who have some type of chronic diseases. The multivariate analysis utilized is an integrative proposal that allows determining the positive or negative influence of the analyzed factors in the perception of health in this group of women. We conclude that working outside the home and without chronic diseases influence favorably the perceived health status in these women.

A45
EFFECT OF METRONOMIC CHEMOTHERAPY ON MICE WITH METABOLIC SYNDROME BEARING A MAMMARY ADENOCARCINOMA

Habib MJ[1,] Barranco MM[1,2], Di Carlo B[1],Sigal N[1],SylvestreBegnis M[1],Zechinatti F[3],Del Giúdice A[4], Rico MJ[2,4], Rozados VR[2], Scharovsky OG[2,4], Villanueva SSM[3],García F[1,2], Mainetti LE[2,4].
[1]Laboratorio de Fisiología Metabólica, Facultad de Cs. Médicas, Universidad Nacional de Rosario. [2]CONICET-Rosario. [3]Instituto de Fisiología Experimental-CONICET. [4]Instituto de Genética Experimental, Facultad de Cs. Médicas, Universidad Nacional de Rosario. E-mail: leandromainetti@gmail.com

High fat diets cause obesity and metabolic syndrome (MS) and they are associated with breast cancer progression. Metronomic chemotherapy (MCT) is characterized by the chronic, equally spaced, administration of chemotherapeutic drugs, in doses significantly lower than the maximum tolerated dose, without extended rest periods. Our objective was to evaluate, in mice with MS and bearing the M-406 mammary adenocarcinoma (M-406), the effect of MCT with cyclophosphamide (Cy). CBi male mice (5 weeks of age), were fed with a standard diet (Control, C) or with a diet with 40% calories of bovine fat (High Fat Diet, HFD), during all the experiment. At 16 weeks, the development of MS was confirmed by body weight gain (P<0.005), resistance to insuline (P<0.05), hyperglycemia (P<0.0001), hypercholesterolemia (P<0.05), hypertriglyceridemia (P<0.005) and abdominal obesity (P<0.0001). Then, the animals were s.c. challenged with M-406 (day 0); when the tumor was palpable, the treatment with Cy (30 mg/kg of body weight/day in the drinking water) began, distributing the animals in 4 groups (n=8-9/group) which received, GI: C without treatment, GII: C+Cy, GIII: HFD without treatment and GIV: HFD+Cy. At the end of the experiment (day 22), the tumor volume was lower in GII *vs* GI and higher than that observed in animals fed with the HFD (P=0.0524). In GIV it was observed a 30% decrease in body weight. Conclusions: 1) CBi mice fed with the HFD developed several characteristics of the MS; 2) MCT with Cy has lower antitumor effectivity in animals with MS; 3) The toxicity observed in animals treated with HFD and MCT could be due to the fact that the therapeutic scheme was designed to treat young animals without any metabolic pathology. Hence, it should be re-designed for the treatment of old animals with underlying pathology.

A46
INFLUENCE OF THE LABORATORY ON THE CONCEPT, PREVALENCE AND DIAGNOSIS OF CELIAC DISEASE OVER TIME

Eusebi SM [1], Pretto LE [1], Tamagnini GA [1], Tibaldo AE [1], Hernández MA [1], Pellegrino G [2], Pezzarini E [1,2], Gerhardt NC [2], Basiglio CL [1], Daniele SM [1], Arriaga SM [1], Pelusa HF[1,2]
[1]Área Bioquímica Clínica, [2]Laboratorio Mixto en Enfermedad Celíaca (LMEC), Fac.de Ciencias Bioquímicas y Farmacéuticas-UNR. E-mail: sabrieusebi24@gmail.com

In the last decades, the incorporation of new laboratory technologies improved the speed, sensitivity and specificity of diseases diagnosis. These technologies have not only served as diagnostic tools, but they have also impacted on the concept of the diseases to which they are applied. We aimed to analyze variations in the concept, prevalence and diagnostic tests for celiac disease (CD) in the

period 1995-2016. We examined the 13th (1995), 14th (2000), 15th (2004), 16th (2009), 17th (2012) and 18th (2016) editions of the Farreras-Rozman Internal Medicine book, Volume I, Section II: Diseases of the digestive system, where CD is addressed. The texts were divided in three periods based on laboratory technologies applied to the diagnosis of CD: First period (FP 1995-2004 (13th, 14th and 15th edition) where intestinal malabsorption tests appear, Second period (SP) 2009-2012 (16th and 17th edition) in which serology and genetics are given substance, and Third period (TP) 2016 (18th edition) in which flow cytometry (FC) and immunohistochemistry (IHC) are incorporated. Regarding the concept of CD, multiple names for the disease were found in the FP: in the 13th edition, at least seven different names are cited, while in the 14th and 15th, only two are used. Only one denomination appears in the SP and TP, and the CD is defined as "an autoimmune enteropathy triggered by exposure to gluten" outlining the "genetic transmission" of the disease. As for the prevalence of CD, in the FP the text says "is not known exactly, since it varies widely according to the geographical area studied", whereas in the SP it is expressed as "one of the most frequent genetic transmission diseases in the western world, with a prevalence between 1: 100 to 1: 300", highlighting the role of serological tests in the determination of prevalence. Regarding the diagnostic tests, in the FP, in the item (13th edition) or in the subtitle (14th and 15th editions) *Laboratory Findings*, intestinal malabsorption is described in 1165 characters (13th edition) or 329 characters (14th and 15th editions). From the SP on, the section subtitle is *Genetic study and serology* and intestinal malabsorption tests are not included. In the TP, the subtitle *Study of lymphocyte subpopulations in the duodenum and subepithelial deposits of transglutaminase 2* is added; this section describes new markers for clinical forms of CD that do not present villous atrophy. In conclusion, our study outlines the relevance of the incorporation of new technologies in the construction of a new concept of CD, based on the autoimmune profile of the disease. The replacement of malabsorption tests by determinations of specific antibodies, genetic markers, FC and IHC, leads to an increase in both prevalence and diagnosis of non-classical forms of the disease, currently placing CD as one of the most frequent genetically transmitted diseases in the western world.

A47
POPULATION DYNAMICS OF *Chloris virgata* Sw. IN FALLOW WITH AND WITHOUT COVER CROPS.

Lescano MC[1], Moreno E[1], Faccini D[1], Puricelli E[2].
[1]*Cátedra de Malezas.*[2]*Cátedra de Terapéutica Vegetal. Facultad de Ciencias Agrarias. UNR. CC14 (S2125ZAA), Zavalla, Santa Fe. Argentina. E-mail: mariacecilia.lescano@unr.edu.ar*

Chloris virgata is an spring-summer annual species, belonging to the Poaceaefamily ofdifficult to control with herbicides such as glyphosate.In thelastfewyears, *C. virgata*hasincreaseditsfrequency and abundance in fallow and in thesummercrops of the Pampean region.Duringthefallowperiod, alongwithchemical control, cultural control can be implemented usingcovercrops (CC).It isimportant to knowthedegree of control that CC can produce on weedsthroughcompetitionfor light, water and nutrients.The objective was to determine theeffect of thepresence and absence of CC in fallow, on thepopulationdynamics of *C. virgata*.Theexperimentwas done at the experimental field of Fac. Cs. Agrarias -UNR in Zavalla, Santa Fe (33 ° 01 'S - 60 ° 53'W) duringtheautumn-winter-springfallowin 2017.On 2[nd]May, in soybeanstubble, CC wasplanted usinga mixture of 80% of*Triticosecale* (triticale) and 20% of*Viciavillosa* (vicia). Plots of one m²weremarked in bothtreatments (with and without CC). The experimental designwascompletelyrandomized blocks with five replicates. SinceAugust, theemergence, survival and mortality of the weedwerequantified. In thetreatmentwith CC, no emergence of weedwasregisteredduringtheexperiment.In thetreatmentwithout CC, thefirstemergencewas produced on 31[st]August. Sincethen, determinationswerecarriedouteverysevendays. During the first 21 days,accumulated emergence was 60 %. On 13 [th]October, 100% of the emergence was recorded. Themaximumnumber of emerged seedlingwas observed on 21 [st]Septemberwithanaveragevalue of 47 plant/m². In all dates, plantmortalitywas determinedand the maximum valuewas 11 plant/m². Survivalwas always greaterthanmortality andthe maximum valuewas 124 plant/m². On 20[th]October, glyphosatewasapplied to the wholeexperiment. Beforethat, tenplants of each date were cut and were placed in an oven at 60ºC for 72 h to determine dryweight. Thevalues of dryweight of theplantswere, on average, 1.4 g, 1.0 g, 1.0 g, 0.75 g, 0.55 g, 0.47 g and 0.15 g foreachcohortrespectively. Theaveragedrymatter of the CC was 7.616 kg/ha. These results show thatcultural control using CC wasappropriate to reduce thepopulation of *C. virgata.*

A48
FREQUENCY OF HUMAN PLATELET ANTIGEN (HPAs) POLYMORPHISMS IN DONORS FROM DIFFERENT POPULATION GROUPS OF ROSARIO CITY

[1,2]*Mattaloni, SM;* [2]*Migoni, A;* [2]*Ensinck, A;* [1,2]*Luján Brajovich, M;* [1,2]*Trucco Boggione, C;* [1,2]*Mufarrege, N;* [1,2]*Principi, C;* [2]*García Borrás S;* [2] *Biondi,* [1,2] *Cotorruelo C.*
[1]*Laboratorio de Inmunohematología – IDICER. Universidad Nacional de Rosario – CONICET. Rosario, Argentina.*[2]*Laboratorio de Inmunohematología. Facultad de Ciencias Bioquímicas y Farmacéuticas. E-mail: smattaloni@fbioyf.unr.edu.ar*

Diversity of HPAs is based on a single base pair substitution in the platelet glycoprotein complexes genes. HPA are involved in foetal and neonatal alloimmune thrombocytopenia, post-transfusion purpura and platelet transfusion refractoriness. The frequencies of HPAs vary between different populations. Considering that our current population is the result of a complex process of hybridization between Caucasians, Native Americans and Africans and that the admixture degree varies among different social groups, we consider critical to evaluate the distribution of platelet phenotypes in our population. The aim of this study was to investigate the genotype and allele frequencies of the HPA-1, HPA-2, HPA-3, HPA-5 and HPA-15 systems in two different groups: donors from a public hospital [G1] and donors from a private laboratory [G2]. Blood samples were obtained from 264 individuals from G1 and 258 from G2. HPA typing was performed by molecular strategies based on PCR-SSP and PCR-RFLP. HPA-1 genotype frequencies (GF) for G1 were: 1a/1a=0.83, 1a/1b=0.17, 1b/1b=0.00 while for G2 were 1a/1a=0.70, 1a/1b=0.28, 1b/1b=0.02. The allele frequencies (AF) found for G1

were: HPA-1a=0.92, HPA-1b=0.08 while for G2 were HPA-1a=0.84, HPA-1b=0.16. HPA-2 GF for G1 were: 2a/2a=0.73, 2a/2b=0.26, 2b/2b=0.01 while for G2 were: 2a/2a=0.85, 2a/2b=0.13, 2a/2b=0.02. The AF found for G1 were: HPA-2a=0.86, HPA-2b=0.14 while for G2 were HPA-2a=0.91, HPA-2b=0.09. HPA-3 GF for G1 were: 3a/3a=0.38, 3a/3b=0.47, 3b/3b=0.15 while for G2 were: 3a/3a=0.44, 3a/3b=0.53, 3b/3b=0.03. The AF found for G1 were: HPA-3a=0.62, HPA-3b=0.38 while for G2 was HPA-3a=0.71, HPA-3b=0.30. HPA-5 GF for G1 were: 5a/5a=0.81, 5a/5b=0.19, 5b/5b=0.00 while for G2 were 5a/5a=0.30, 5a/5b=0.69, 5b/5b=0.01. The AF found for G1 were: HPA-5a=0.90, HPA-5b=0.10 while for G2 were HPA-5a=0.65, HPA-5b=0.35. HPA-15 GF for G1 were: 15a/15a=0.34, 15a/15b=0.32, 15b/15b=0.34 while for G2 were 15a/15a=0.26, 15a/15b=0.29, 15b/15b=0.45. The AF found for G1 were: HPA-15a=0.50, HPA-15b=0.50 while for G2 were HPA-15a=0.41, HPA-15b=0.59. According to chi-square test, statistically significant differences were found for the HPA genotype distribution between both groups (HPA-1: $p<0.02$; HPA-3: $p=0.00024$, HPA-5: $p<0.0001$ and HPA-15: $p=0.001$) and for the AF (HPA-1: $p= 0.0017$; HPA-2: $p=0.014$; and HPA-5: $p<0.05$ and HPA-15: $p=0.005$). These results are consistent with our previous studies in erythrocyte blood group systems showing ethnic variability in the different social groups analyzed. A comprehensive study of the HPA polymorphism and allele distribution in our population will contribute to the organization of a regional registry of HPA-genotyped aphaeresis donors for a better management of alloimmunized patients.

A49
MORPHOMETRIC INDICATORS OF ABDOMINAL ADIPOSITY IN RATS

Corzi A[1], AquilanoF[1], Chapo G[2], Gayol M del C[2], Tarrés MC[3], Gayol MC[2], Menoyo I[1]
[1]Cátedra de Química Biológica, [2]Centro de Investigación y Producción de Reactivos Biológicos (CIPReB), Facultad de Ciencias Médicas, [3]Consejo de Investigaciones. Universidad Nacional de Rosario. Email:inesmenoyo@hotmail.com

The visceral adipose mass in rats can be evaluated directly by the weight of the intra abdominal adipose tissue after the sacrifice of the animal, excluding its use in longitudinal experiments. Other techniques such as computerized axial tomography, dual X-ray absorptiometry and quantitative magnetic resonance are very effective but also expensive. Indirect methods, which unlike those mentioned above are not invasive for the experimental subject, as the abdominal circumference and sagittal diameter are accessible and can be used in longitudinal studies. The aim of this work was to evaluate the correlation between non-invasive morphometric parameters as indicators of abdominal adiposity and the visceral fat mass. The conditions for the maintenance of the animals agree with international bioethical standards. Food and drinking water were supplied ad libitum. The variables studied in 41 male rats of different lines and ages were: body weight (BW), body mass index (BMI: body weight/body length^2), toracic cincumference measured in the posterior region of the foreleg with the rat in vertical position (TCv), abdominal circumference measured in the anterior region of the forefoot with the rat in vertical position (ACv) and supine decubitus position (ACsd), sagital diameter measured in the anterior region of the forefoot with the rat in supine decubitus position with a caliber (SD), visceral fat mass (VFM) assessed by weighting the total perirenal and periepididymal adipose tissues. The morphometric measurements were made under sedation and anesthesia, and the dissection of the visceral adipose tissue with euthanized animals. The association between the variables was evaluated by regression analysis and Pearson's correlation coefficient. The slopes of the linear regression analyzes and the correlation coefficients between VFM (g) and BW (g), BMI (g/cm2), ACv (cm), ACv/TCv ratio, ACsd (cm), SD (cm) were:b=7.148±0.823 $p<0.0001$, r= 0.8154 $p<0.0001$; b=0.0071±0.0009 $p<0.0001$, r: 0.7826 $p<0.0001$; b=0.1787±0.0183 $p<0.0001$, r: 0.8461 $p<0.0001$; b=0.0031±0.0006 $p<0.0001$, r: 0.6166 $p<0.0001$; b=0.1942±0.0186 $p<0.0001$, r: 0.8607 $p<0.0001$; b=0.0175±0.0042 $p<0.001$, r: 0.5606 $p<0.001$. ACv and ACsd were significantly correlated, r: 0.9887, $p<0.0001$. The correlations between CAv/CTv ratio and DS versus VFM had the lowest coefficients. The other four parameters, BW, BMI, ACv and ACsd had higher correlation coefficients. Body weight and BMI do not provide information on the distribution of adiposity, while AC indirectly estimates abdominal fat. In view of the results, abdominal circumference would be the most useful tool for estimating visceral adipose tissue. The vertical position or supine decubitus position for this evaluation does not influence the measurement.

A50
NASAL CARRIAGE OF *Staphylococcus aureus* IN A PREGNANT POPULATION IN THE THIRD TRIMESTER OF PREGNANCY

Guzmán P, Brandolisio N, Fogliato S, Revelli L, Sáez B, Berrón A, Rodríguez Lanza M, Ferrari Artino M, Córdoba L, Zafra M, Hails I, Bulfoni M, Ombrella A, Ponessa A, Gambandé T
Cátedra de Microbiología, Virología y Parasitología - Facultad de Ciencias Médicas – UNR Email: piliguzman1@gmail.com

Staphylococcus aureus (SA) colonizes the skin and / or nasal passages of healthy people and produces a wide range of infections of varying severity. Individuals colonized by SA can suffer infections or transmit it to other people. Maternal nasal colonization plays an important role in the transmission of AS to the newborn. The purpose of this investigation is to determine the nasal portability of SA in pregnant women between weeks 35-37 of pregnancy, its profile of sensitivity to antimicrobials (AMB) and possible risk factors. 64 pregnant women were studied, who previously signed an informed consent and completed a survey in order to find possible risk factors (active / passive smoking, asthma, sinusitis, rhinitis, cutaneous infections, immunosuppressants, systemic antibiotics, previous surgeries, diabetes, use of nasal sprays as decongestants or local corticosteroids). Samples were obtained with sterile swab from both nostrils which were seeded in Salted Mannitol Agar (*Britania*®) and incubated at 35 °C for 48 hs. Suspect colonies of SA were identified using conventional biochemical tests (mannitol fermentation, DNase and coagulase tests) and sensitivity to AMB was assessed by diffusion (Kirby-Bauer method), according to the standards of the Clinical and Laboratory Standards Institute (CLSI). Of the 64 pregnant women studied, 18 (28.1%) were colonized with SA. Of the 18 SAisolated, 15 (83.3%) were sensitive to methicillin (SAMS), and 3 (16.7%) were resistant (MRSA) without presenting accompanying resistance,being the reason why they were interpreted as MRSA acquired in the community (SAMR-AC). Of the other AMB tested, the following resistance profile was

observed: levofloxacin 0.0%, cotrimoxazole 5.6%, gentamicin 11.1%, clindamycin 16.7% and erythromycin 33.3%. The risk factors analyzed did not show significant differences compared to the group of pregnant woman colonized by SA. The detection of this microorganism in nasal passages in pregnant women is very useful to prevent horizontal transmission and prevent possible disseminations in the carrier causing infections with different levels of severity.

A51
RECTOVAGINAL COLONIZATION FOR *Staphylococcus aureus* IN A POPULATION OF PREGNANT WOMEN IN HEALTH EFFECTORS OF THE CITIES OF ROSARIO AND SAN NICOLÁS DURING THE PERIOD BETWEEN FEBRUARY AND JUNE OF 2018

Sirro VG[1, 2, 3], Toresani IE[2], Rossi M[3], David AS[1], Gambandé TMJ[1]
[1]Facultad de Medicina y Ciencias de la salud, Universidad Abierta Interamericana, Sede Regional Rosario, Ovidio Lagos 944 (2000) Rosario. [2]Laboratorio de Bacteriología, Sanatorio de la Mujer, San Luis 2493, (2000) Rosario, Santa Fe. [3]HospitalInterzonal De Agudos San Felipe, Av. Doutor Mariano Moreno 31, (B2900GPA) San Nicolás de Los Arroyos, Buenos Aires.
E-mail: victoriasirro@gmail.com.

Staphylococcus aureus (SA) is considered one of the principal pathogens for humans. The main impact of this microorganism is due to methicillin-resistant SA strains (MRSA), which were traditionally limited to the hospital setting whereas in recent years the MRSA strains have appeared in the community (CA-MRSA), making it difficult to be treated. The vaginal-anal colonization by CA-MRSA constitutes an important cause of morbidity and mortality in pregnant, puerperal and neonatal patients, which makes the study of the subject relevant. Objectives: To know the prevalence of recto-vaginal colonization due to methicillin-sensitive SA and methicillin-resistant SA (MRSA) in a population of pregnant women, and to establish whether there is a link between colonization with clinical and/or epidemiological factors, and colonization by β Hemolytic Streptococcus group B (GBS). Materials and methods: A descriptive cross-sectional study was carried out. Anal and vaginal swabs and epidemiological records of 100 women who attended the third trimester of pregnancy, from the 35th week of gestation, attended in the Microbiology laboratory of the Sanatorio de la mujer in the city of Rosario and the San Felipe Hospital were obtained from the city of San Nicolas, during the period between February and June of 2018. Results: From the studies carried out it was possible to determine that 8% of the population is colonized by SAMS, while nobody was a carrier of MRSA. Whatsmore, 17% of the women studied were found to be carriers of GBS and only two patients presented co-colonization with SAMS. No statistically significant associations were found between the carrying of SA and the clinical and/or epidemiological factors analyzed. Conclusions: *Staphylococcus aureus* infections increase day by day in pregnant and puerperal women and newborns, but the risk factors for SA colonization in pregnancy and the association between maternal colonization and childhood infections are not well defined. We sought to identify clinical and/or epidemiological factors by not finding a statistically significant association between them and the carrying of the bacteria.

A52
EVALUATION OF VASCULAR REPLACEMENT WITH LATEX IN RABBIT (*Oryctolagus cuniculus*) PELVIC LIMBS PRESERVED BY THE *CFP - Soft Fix* METHOD

[1]Pereyra C F, [1]Perez Mogetta L C, [1]Smacchia C A, [1]Cirimele M N, [2]Biancardi M E, [2]Madariaga M J
[1]Cátedra de Anatomía Descriptiva y Comparada 1 [era] parte, Fac. de Cs. Veterinarias; [2]Área Morfología, Fac. de Cs. Bioq. y Farm. – U.N.Rosario. E-mail: cfabiopereyra@gmail.com

The knowledge of the Anatomy of domestic animals is fundamental in the formation of the future Veterinarian. To access this knowledge, this science uses study specimens that must be adequately preserved, maintaining the original characteristics of the live animal. The adequate conservation of specimens allows performing maneuvers such as vascular repletion, joint movements and surgeries, so that conservation methods have become an indispensable tool for this science. The conservation method CFP - *Soft Fix,* developed without the use of formaldehyde and used by the Chair of Anatomy I of the Faculty of Veterinary Sciences of the UNR to conserve corpses, has the advantages of maintain important characteristics such as flexibility, elasticity, the volume and color of the tissues and organs, allowing the structures to be recognized in the material without the drastic changes that occur in specimens preserved with conventional solutions. The objective of this work was the evaluation of the vascular repletion with latex in rabbit (*Oryctoláguscuniculus*) pelvic limbs preserved by the CFP - *Soft Fix* method.For this purpose, intravascular injection of colored latex with toner for water paints was performed on 10 isolated pelvic limbs, 30 days after applying the CFP - *Soft Fix* method. The external iliac artery and the common iliac vein of New Zealand rabbits werecanalizedafter cleaning the blood vessels with 20 ml of physiological solution and 2 cm^3 of red latex was injected in the external iliac artery and 2 cm^3 of blue latex in the common iliac an approximate volume of 2 cm3 of red latex was injected in the external iliac artery and 2 cm3 of blue latex in the common iliac vein. During the procedure, no evidence of resistance to the passage of latex trough the arterial system or blood vessels rupture with latex effusion was seen, as is the case with other preservation techniques. After the vascular repletion all the anatomical pieces were placed in hermetic bags until the latex coagulation for later dissection. During the dissection process, vascular repletion, integrity of the vascular system and latex penetration to distal arteries of reduced caliber were evaluatedthrough the observation of the macroscopic characteristics and no changes were shown that indicate the deterioration of the anatomical piece. In the evaluation of the vascular repletion, the integrity of the vascular system was verified, as well as the penetration of the latex to the distal arteries of reduced caliber of the limb, with no vessels without latex content or the presence of air bubbles. The resistance of the arteries injected during the flexion and extension of the coxal, genu, tarsal and finger joints was also verified. After this study, we concluded that the CFP - *Soft Fix* conservation method allows the correct vascular repletion and as a result of it, anatomical piece obtained exhibits the vascular system in its entirety, and that resists the movements of flexion and extension of the joints.

A53
EVALUATION OF MARKERS OF RESPONSE TO TREATMENT IN BREAST CANCER PATIENTS

Lara Esquivel[1*], Del Giúdice Antonela[1, 2*],Perroud Herman A[1],Mainetti Leandro E[1, 2], Rico María J[1, 2],Scharovsky, O Graciela[1, 2,3], Rozados Viviana R[1, 2]
[1]Instituto de Genética Experimental, Facultad de Ciencias Médicas, U.N.R.,[2]CIC-UNR, Rosario, [3]CONICET, *contributedequally
E-mail: laraesqui@gmail.com

Presently, it is increasingly recognized that the tumor microenvironment plays a substantial role in tumor progression, considering that tumor growth is dependent, in a bidirectional way, on the interactions between microenvironment components and tumor cells. Solid tumors progress in a hypoxic environment; tumor cells stimulate angiogenesis, which drives to more aggressive cells, with invading capacities and resistance to the treatment. Different factors like HIF1α (hypoxia inducible factor 1α) and VEGF (vascular endothelial growth factor) are produced in response to hypoxia, inducing angiogenesis. Recently, the expression of Foxp3^{+} cells has been related to tumor progression. Our objective was to identify factors that can help in the prediction of the clinical evolution of the patients for which we propose: a) to analyze the expression of HIF1α, VEGF and Foxp3 in primary tumors of breast cancerand, b) to relate that expression to the clinical evolution (disease free DF, or relapsed R) at 5 years after the primary treatment. Thirty medical records of breast cancer patients with 5 or more follow-upyears, were analyzed. The archive samples studied corresponded to ductal breast cancer, stage I and II, and luminal A and B. It was determined the expression ofHIF1α, VEGF and Foxp3 by immunohistochemistry in 30 high magnification fields. All the patients were treated with surgery ± radiotherapy/chemotherapy and the patients with positive hormonal receptors, adjuvant hormonal therapy. The primary tumors showed higher expression of HIF1α in DF patients (n=20) (n° of positive cells, median [range]: 6.5 [0.0-29.0]) in comparison with R patients (n=10) (0.0 [0.0-1.0]) (P=0.0015). No differences between groups were observed for VEGF expression.DF (2.0 [0.0-9.0]) andR (2.0 [0.0-8.0]) (P=0.7047). The number of Foxp3^{+}was higher in DF patients (13.0 [0.0-50.0]) with respect to R patients (3.0 [0.0-6.0]) (P=0.0072). We can conclude that: 1) the expression of VEGF would not constitute a marker of response; 2)the increase in HIF1αand Foxp3 expression in the primary tumor of disease free patients suggests that those molecules may represent predictive biomarkers of response to treatment, at least in the first 5 years after surgery. The proposal of their use as cellular biomarkers must be confirmed with a higher number of samples.

A54
CARACTERIZATION OF A MURINE MAMMARY ADENOCARCINOMA MODEL IN MALES OF THE CBi LINE

Fusini Matías[1], Capitani María C[1], Del Giúdice Antonela[1,2], Scharovsky, O Graciela[1,2,3], Mainetti Leandro E[1,2], Rico María J[1,2], Rozados Viviana R[1,2]
[1]Instituto de Genética Experimental, Facultad de Ciencias Médicas, U.N.R., [2]CONICET, [3]CIC-UNR, Rosario
E-mail: matiasfusini@gmail.com

The development of models in mice which mimic the different stages of tumor development has led to great advances in experimental oncology. Even though breast cancer is much more frequent in women, it can also develop in men. The need of developing more individualized treatments against cancer makes it mandatory to examine every aspect involved in this illness. The cells of the immune system play a vital role not only in the survival but also in the growth or the tumor rejection. M-406 is a transplantable type B, semi differentiated, triple negative (ER-, PR-, HER2-) mammary adenocarcinoma (M-406) which appeared spontaneously in a female of the CBi inbred mice line. With the aim of obtaining an experimental model which allows the study of mammary tumors in males, our objective was to characterize M-406 in CBi males and to evaluate the quantity of circulating CD4+, CD8+, Treg y Th17 lymphocytes during tumor growth. CBi males (n=7) were s.c. inoculated with M-406 mammary adenocarcinoma (Day 0). During the experiment, the evolution of tumor volume [V= (smallest diameter)2 x largest diameter x 0.4] was determined, measuring it with a caliper, twice a week. Also, blood samples were taken on days 0, 7 and 14 and the percentages of CD4+, CD8+, Treg and Th17 were determined by flow cytometry. It was observed that the tumor grew exponentially in all the animals, with a tumor volume doubling time of2.29 ± 0.21 (days, mean ± SEM). After tumor inoculation, and comparing with the values at day 0, there was an increase of CD8+, Treg and Th17 cells (P<0.01) on day 7,and a decrease in CD4+ cells on day 14 (P<0,01). It is concluded that: 1) maleCBimice are susceptible to M-406 tumor; 2) when they are challenged with M-406 theydevelop an antitumor immune response shown by the increase of CD8+ and Th17 cells but,simultaneously, the tumor generates a mechanism of escapefrom the immune response evinced by the increase ofTreg cells.The balance between pro- and anti-tumor cells determines that, eventually, the tumor grows and the animals show, at day 14 a decrease of CD4+ cells.In future experiments other aspects of the tumor biology such as survival metastasis development and variations in other cells populations and molecules, will allow a better characterization of the model.

A55
IDENTIFICATION AND ANALYSIS OF VARIABILITY OF AN ISOLATE BELONGING TO THE GENUS *Heterorhabditis* (NEMATODA: HETERORHABDITIDAE).

Echevarría D[1], Cagnolo SR[1], Bertolotti MA[1]
[1] Cátedra de Parasitología, Facultad de Ciencias Exactas, Físicas y Naturales,Universidad Nacional de Córdoba. Av. Vélez Sársfield 299 (5000) Córdoba. Argentina. E-mail: echevarriadani@gmail.com

The nematodes belonging to the genus *Heterorhabditis* are obligate parasites of insects and inevitably cause the death of these between 24 and 48 hours.Therefore, these organisms are used as agents for the biological control of harmful insects. Up to the present, only one species, *Heterorhabditis bacteriophora* has been found in Argentina. The variability of the morphometric characters used for the description of the species of the genus *Heterorhabditis* can lead to errors in the identification.Molecular techniques provide additional information and allow the evaluation of interspecific relationships.Sampling carried out on the National Route 60 Km 842, in the Department Ischilín, province of Córdoba, allowed to detect a new isolate of the genus *Heterorhabditis*, named N842. The objectives of this work were to identify this isolate at specific level and to evaluate the variability of its morphometric characters. The morphometric characters traditionally used for descriptions of entomopathogenic nematodes were considered.Hermaphroditic females, amphimictic females, males, and infective juveniles were considered.The ribosomal sequences of the ITS regions (transcribed spacer sequence) and D2/D3 domain of the 28S gene of nuclear ribosomal DNA (rDNA) were analyzed.Isolate N842 was identified as *Heterorhabditis bacteriophora*. The morphometric characters of all the stages, extended the ranges known for the species.100% of the characters showed low variability in infective juveniles.In the adult stages, both in hermaphroditic females and in amphimitic females, 63.67% of the characters showed low variability and 36.33% showed medium variability; in males, 71.43% of the characters showed low variability, while 28.57% presented mean variability values.Phylogenetic analyzes based on the ITS region, and on the partial sequence of the D2/D3 domain of the 28S subunit, confirmed the identification based on the morphometric characters with 100% similarity in their sequences for both genes. These results provide new data for the knowledge of *H. bacteriophora* in Argentina, they show once againthe intraspecific variability of the species and point out the importance of accurately characterizing each new isolate that is detected.

A56
POLYPROLACTONE MATRICES, POST-IMPLANT CLINICAL EVOLUTION

Chullo LlerenaV[1], Farez N[1], Santiago O[1], Benevides de Oliveira G[1], Camal Ruggieri IN[1], Missana LR[2], Rivero G[3], Abraham GA[3], Gatti DA[1], Feldman S[1,4]
[1]LABOATEM Fac. Cs. Médicas UNR [2]Proimi-CONICET Tucumán, [3]INTEMA (UNMdP-CONICET) Mar del Plata,[4]CIUNR-CONICET
E-mail: saryfeldman@gmail.com

Tissue engineering aims to create strategies to regenerate lost tissue. We have decided to start investigating the implementation of nanocomposite polymer matrices (**PCL-nHAp**) that were prepared by blends of poly(caprolactone), biocompatible and biorabsorbable polyester, and particles of nanohydroxyapatite, bioceramic bioactive with nano-fiber structure.
We investigated the evolution of the clinical state of animals that, having suffered a bone injury, receive as an implant:**PCL-nHAp**.
15 female rabbits (New Zealand, 4 months old) were randomly divided into three groups (n = 5) I, II, and III.
I and II were brought under a metaphyseal femoral bone injury, 3 mm deep and 6 mm in diameter, with sterile trephine, (Anesthetic treatment: Ketamine hydrochloride, in a dose of 35 mg/kg of body weight, Xylazine hydrochloride in a dose of 18 mg/kg of body weight, Acepromazine Maleate in a dose of 1 mg / kg of weight; a pain treatment: tramadol, 6 mg/kg/day, v.i. for 3 days and an antibiotic treatment: cephalexin 50 mg/kg/day x 3 days).
I received the **PCL-nHAp** implant (it was previously synthesized with the exact size and shape necessary to be applied at the location of the lesion), II received no implant; The animals of group III were left as controls.
Clinical studies were performed in the first week (daily), at fifteen days, at a month, at two months and three months post-implant, considering a) General condition, **EG** b) Wound scarring, **Ch**, c) Food Consumption, **CA**, d) March and e) Observation of the presence of inflammatory effects associated with the implant location, **Inf**.
Results: Although animals of groups II and III showed a slight decay in the first three days post surgery, from that moment the **EG**of all the groups was very good,**Ch** was completed between 13-15 days post-intervention, in both groups, I and II, **CA** was slightly lower in the first three days for groups I and II compared to III (p <0.05), but after that without significant intergroup differences (ANOVA and Tukey).
All the operated animals gradually recovered the march, normalizing from day 8 post-surgical. No inflammatory phenomena associated with the implant location were observed in group I.
Macroscopic observations of the femurs obtained post-mortem, performed in parallel, showed good tissue repair.
Conclusions: At a clinical level, an adequate acceptance of the implant was observed, without evidence of phenomena of rejection or associated inflammatory processes.

A57
ANALYSIS OF THE RESPONSE TO INFECTION WITH INCREASING DOSES OF *Trichinella patagoniensis* IN CBi-IGE MOUSE LINES DIFFERING IN SUSCEPTIBILITY TO *Trichinella spiralis*

Indelman PA[1], Taborda D[1], Cerdán MC[1], Codina AV[2,3]; Vasconi MD[1,2].; Hinrichsen LI[2,3]
[1]Área Parasitología,Fac. de Cs. Bioquímicas y Farmacéuticas, [2]Instituto de Genética Experimental, Fac. de Cs. Médicas, [3]CIC-UNR. Universidad Nacional de Rosario. E-mail: paulaindelman@yahoo.com.ar

Trichinellosis is a zoonosis caused by parasites of the genus *Trichinella*. *Trichinella spiralis* (Ts) was the only species involved in animal and human outbreaks in Argentinauntil 2008 when Krivokapich*et al.*identified a new species, *Trichinellapatagoniensis* (Tp), isolated from cougars from Patagonia. Although felines and mice are the most susceptible hosts, this species would also be capable of infecting humans. The genotype of the host has undoubtedly an essential role in the control of parasitic infections and conditions the establishment of an infection. In previous experiments, it was shown that two mouse lines (CBi/L and CBi) of the CBi-IGE murine model differed in the degree of infection after challenge with increasing doses of Ts. This work aimed to examine the response of these lines against infection with increasing infective doses of Tp, studying the relative parasitic load (CPr, number of parasites/g of fresh tissue) and the index of relative reproductive capacity (ICRr=CPr/infective dose), variables associated with resistance/susceptibility in the chronic stage of the infection. Male adult animals of the CBi/L (resistant) and CBi (susceptible) lines (n = 8 per line and group), infected orally with 1 (GI), 2 (GII) or 4 (GIII) L1 infective larvae per g of body weight,were used. In the parenteral stage (42 ± 2 days post-infection), artificial digestion of the tongue was performed, and all the L1 larvae present in the suspension were counted under a microscope at 40x.CPr increased in both lines when increasing the infective dose ($\bar{x}\pm$ SE, CBi/L: GI, 17 ± 7.5, GII, 30 ± 7.1, GIII, 40 ± 3.8; CBi: GI, 62 ± 14.6, GII, 70 ± 17.2, GIII, 127 ± 13.9) although it was only significant for the CBi genotype ($P = 0.03$); in the dose range used CBi always had a higher CPr than CBi/L ($P <0.05$). ICRr values were independent of the administered dose ($\bar{x}\pm$ SE, CBi/L: GI, 0.5 ± 0.23, GII, 0.5 ± 0.12, GIII, 0.6 ± 023; CBi: GI, $1,5 \pm 0,65$, GII, $0,9 \pm 0,21$, GIII, $0,8 \pm 0,08$), but were always higher in CBi ($P <0.05$). Data were also analyzed with an ANOVA corresponding to a multifactorial experiment (2 genotypes x 3 doses);the interaction genotype x dose was not significant. A marked effect of both genotype and dose was observed in CPr($P < 0,0001$ and $P =0,0039$, respectively) whereas ICRr showed only, as expected, genotype effect($P = 0,0027$).Susceptibility to parasitic infections is determined by a complex equation, resulting from the interaction of host genotype, parasite genotype and environment. In this experimental model, the genotype of the host determined the result of the infection regardless of the genotype of the parasite. The finding of a new species of the genus *Trichinella* and the investigation of the characteristics of the host/parasite interactions will allow in-depth knowledge of aspects of the relationship on which to base control measures to avoid infection in man and minimize the dispersion of the parasite in the environment.

A58
THE SAPINDACEAE FAMILY IN THE PROVINCE OF SANTA FE (ARGENTINA).

Delgado, B [1], Mogni, V [1], Maturo, H[1], Oakley, L [1], Prado, D. [1,2]
[1]Cátedra de Botánica Morfológica y Sistemática Agronómica, Facultad de Ciencias Agrarias, [2]IICAR-CONICET, UNR, CC Nº 14 (2125) Zavalla, Santa Fe, Argentina. E-mail: hmaturo@unr.edu.ar

The family Sapindaceae Juss. (Order *Sapindales*)consists of about 142 genera and 1860 species of tropical and subtropical areas.In Argentina it comprises16 genera and 45 species, with trees, shrub and woody vines with tendrils.Usually alternate and composite leaves, with or without stipules.Flowers in cimose inflorescence tetra to pentamerous, generally imperfect.Fruit di- or trisamara, capsule or berry.The objective of this work is to communicate the taxonomic and biogeographic study of *Sapindaceae* family for the Santa Fe Province. The methods consist of a bibliographical review, consultation of national herbaria with important collections of the province (SF: Esperanza; SI: San Isidro; UNR: Zavalla) and on line databases. Our preliminary results show that the family is represented in Santa Fe by 9 genera and 11 species. In the northeast of the province grow up woody species in riverside environments associated with the Paraná river: *Dodonaeaviscosa*Jacq.,*Sapindussaponaria* L. and *Allophylus edulis* (A. St.-Hil., A. Juss. &Cambess.) Hieron.exNiederl. This last taxon, known as 'chalchal', with *Diplokeleba floribunda* N.E. Br. 'stone stick',appear also in 'Austro-Brazilian Transition Forests' (ABTF) in the Chaco region and are valued for their nutritional, medicinal, and logging use, respectively.On the other hand, climbers are mentioned:*Cardiospermumhalicacabum* L. (with one variety), *Houssayanthusincanus* (Radlk.) Ferrucci,*Serjaniacaracasana* (Jacq.)Willd.and*Urvilleauniloba*Radlk.; inhabit humid environments and edges of water courses, often on sandy soils from the north to the center-south of the province. The genera *Paullinia* L. it represented by two species of climbing shrubs, toxic: *P.elegans*Cambess. and*P. pinnata* L these appear in marginal forests and modified lands in General Obligado and San Javier departments, and -in the case of *P. pinnata*- also in ABTF of the provincial northeast. Likewise, it is postulated that the tree species *Cupaniavernalis*Cambess., is likely to be found in the north of the province along with other floristic elements of the 'Domain of Neotropical Seasonal Dry Forests', given that there are collections only 15 km from the interprovincial boundary with the province of Chaco. A species distribution map, botanical illustrations and a key for field recognition are provided.

A59
SETTING UP AN *IN VITRO* TECHNIQUE TO EVALUATE THE HEMORHEOLOGICAL ALTERATIONS IN DIABETIC PATIENTS

Batista da Silva MV[1], Rocha Barreto D[2], Alet AI[1], Riquelme B[1,3]
[1]Área Física, Facultad de Cs. Bioquímicas y Farmacéuticas (UNR), Rosario. [2]Facultad de Cs. Médicas (UNR), Rosario. [3]Grupo de Física Biomédica, Instituto de Física Rosario (CONICET-UNR), Rosario E-mail: analia_alet@yahoo.com.ar

In diabetes, due to the prolonged action of glucose, the surfaceelectric charge of red blood cells (RBC) is diminished, producing alterations in erythrocyte aggregationleading to microvascular complications. The exposure time of the erythrocyte membrane to the action of glucose (glycation) is variable between different patients, given rise to different degrees of hemorrheological alterations. In order to carry out a controlledtrial,an*in vitro*technique to induce non-enzymatic glycosylation (glycation) of RBCwas setting up. In addition, this technique would allow subsequent incubation with different agents to analyze its possible hemorheological action in diabetic patients. Healthy donor blood samples (n = 2) obtained by venipuncture and anticoagulated with EDTA were used. After washing the RBCs with PBS, they were incubated with a solution of 1% glucose in PBS and in PBS with 0.5% human serum albumin (PBSA), for 2, 5, 10 and 22 hours at 36.5ºC under controlled stirring. After washing the RBCs twice with PBS, cells were suspended at 0.25% in autologous plasma for microscopic observation. The morphology of the RBCs and its aggregates was analyzed by means of digital images obtained by optical microscopy calculating the aggregation parameters defined in previous works: the isolated cell coefficient (CCA) that analyzes the differences in the aggregation before and after the treatment, and the S parameter that allows obtaining a quantification of the aggregation grade for each sample. Results showed that the samples with 2 and 5 hours of incubation presented aggregates with normal morphologies (rouleaux) and a very low number of echinocytes when compared with longer incubation times. Furthermore, the amount of echinocytes was even lower upon albumin addition, suggesting that, for the same incubation time, it would present a protective effect on the morphology of the RBCs. The 5-hour incubation using PBSA was chosen as the optimal test condition because the time of exposure of the proteins to high glucose concentrations is determinant in the glycation process and that no significant differences were observed in the aggregation parameters of the RBCs between these two times ($p > 0.2$, t-Student). The setting up of this technique will allow two consecutive *in vitro*treatments in the same sample, minimizing the damage in the erythrocyte membrane by the incubation process and successive washes. This technique allows us to study *in vitro*the effects of different agents on glycated RBC in order to model the possible hemorheological alterations in the RBCsfromdiabetic patients.

A60
UTILITY OF ANTI DEAMIDATED GLIADIN PEPTIDES ANTIBODIES IN THE SCREENING OF CELIAC DISEASE IN CHILDREN

Pretto LE [1], Hernández MA [1], Eusebi SM [1], Tamagnini GA [1],Tibaldo AE [1], Pezzarini E [1,2], Pellegrino G [2], Aliverti G [4], Bottai H [3], Daniele SM [1], Basiglio CL [1], Arriaga SM [1], Gerhardt NC [2], Pelusa HF [1,2]
[1]Área Bioquímica Clínica, [2]Laboratorio Mixto en Enfermedad Celíaca (LMEC), [3]Área Estadística, Facultad de Ciencias. Bioquímicas y Farmacéuticas-UNR. [4]Servicio de Gastroenterología, Hospital de Niños V.J. Vilela. E-mail: lautaropretto@gmail.com

Antibodies (Ab) against deamidated gliadin peptides (DGP) have recently been positioned as reliable tools for the diagnosis of celiac disease (CD). The objective of our work was to evaluate their usefulness in the screening of CD in the pediatric population and to compare them with the traditional anti tissue transglutaminase (TGt) and anti endomysium antibodies (EMA). Thirty-three patients from the Gastroenterology Service of Víctor J. Vilela Children's Hospital with clinical suspicion of CD (19 females, 14 males, age range: 1-12 years) who underwent intestinal biopsy (gold standard) were studied. The diagnosis of CD was determined based on the anatomopathological result of the intestinal mucosa (Marsh lesion type IIIa or greater). Serum samples were obtained to determine the levels of IgA (Immunoturbidimetry, VR: 110-195 mg / dl) and anti DGP IgG (ELISA, cut-off value: 10 IU / ml), anti-TGt IgA (ELISA, cut-off value: 10 IU / ml) and EMA IgA (IFI, cut-off value: 1/5 dilution). Biopsy was found positive in 25 patients. The 8 patients who did not meet the histological criteria (Marsh type 0, 1 or 2) conformed the control group. All patients presented normal levels of serum IgA. The sensitivity and specificity of the assay to diagnose CD were for anti DGP IgG 92% and 88%; for anti TGt IgA 92% and 88% and for EMA IgA 84% and 100%, respectively. Within the control group, two of the patients presented positive Ab, one for anti DGP IgG and another for anti TGt IgA. However, serum levels of these Ab were significantly higher in patients with CD than in the control group ($p < 0.05$). The positive predictive value (PPV) and negative predictive value (NPV) were, respectively: anti DGP IgG 96% and 78%; anti TGt IgA 96% and 78% and EMA IgA 100% and 67%. Taking into account the prevalence of CD in the general population (1.27%), PPV and NPV obtained for the general population were: anti DGP IgG 9% and 100%; anti TGT IgA 9% and 100% and EMA IgA 100% and 100%. The sensitivity, specificity, PPV and NPV exhibited by anti DGP IgG, either individually or combined with anti TGt IgA and / or EMA IgA make this Ab an alternative tool in the initial serological screening of pediatric patients with suspected CD. Its determination is rapid, simple and accessible to any clinical laboratory; in the general population it exhibits a high performance comparable to the other Ab in the exclusion of the disease, but it does not exceed the EMA Ab as regards its PPV.

A61

VAGINAL-ANAL CARRIAGE OF *Staphylococcus aureus* AND *Streptococcus* BETA HAEMOLYTICUS GROUP B (*S. agalactiae*) IN A PREGNANT POPULATION IN THE THIRD TRIMESTER OF PREGNANCY

Brandolisio N, Fogliato S, Guzmán P, Revelli L, Sáez B, Berrón A, Rodríguez Lanza M, Ferrari Artino M, Córdoba L, Zafra M, Hails I, Bulfoni M, Ombrella A, Ponessa A, Gambandé T
Cátedra de Microbiología, Virología y Parasitología - Facultad de Ciencias Médicas – UNR Email: nahuel.brandolisio@gmail.com

Staphylococcus aureus (SA) is a pathogenic microorganism that colonizes skin and mucous membranes in approximately 25% of healthy people (carrier status) and from these sites it can spread to others, producing infectious diseases of varying severity. Likewise, transmission from the carrier to another individual has been reported by direct contact, as it can happen from mother to child during the passage through the birth canal. The recto-vaginal colonization by SA is a risk factor for puerperal and neonatal infections. There has been an association between colonization by SA and group B-hemolytic *Streptococcus* (GBS). The aim of this study was to determine the prevalence of vaginal and anal colonization by SA and GBS in pregnant women between weeks 35-37 and to determine the antimicrobial susceptibility profile (AMB) of strains isolated from SA. 144 pregnant women were studied, prior signing an informed consent. All samples were seeded on salted mannitol agar (*Britania*®) and Todd-Hewitt broth supplemented with antibiotics, which was repeated at 24hs on sheep blood columbia agar. Suspect colonies were identified using conventional biochemical tests: mannitol fermentation, DNase and coagulase test in the case of SA; and bile-esculin test, CAMP and / or antigen detection in the case of GBS. The sensitivity to AMB was evaluated using the diffusion method (Kirby-Bauer), according to the standards of the Clinical and Laboratory Standards Institute (CLSI). Of the 144 pregnant women studied, 8 (5.6%) were colonized with GBS and 11 (7.6%) with SA, confirming co-portation in 4 women. Of the 11 isolated SA, 2 (18.1%) were found to be resistant to methicillin (MRSA), and didn´t show any accompanying resistance, which is why they were interpreted as community-acquired MRSA (MRSA-CA). The resistance profile of the SA isolation against the antimicrobials tested was as follows: levofloxacin (0%), cotrimoxazole (9%), gentamicin (9%), methicillin (18%), clindamycin (45%), erythromycin (55%). A high percentage of isolates with resistance to erythromycin and clindamycin was observed, so its empirical usage is not recommended. Levofloxacin, cotrimoxazole and gentamicin continue to be effective against SA. Although these are preliminary results from a work in progress, the high percentage of SA isolations in women colonized by GBS (50%) encourages us to continue with this research project.

A62

VARIATION OF ANTIMICROBIAL SENSITIVITY IN ISOLATED *Escherichia coli* STRAINS FROM PIGS WITH DIARRHEA

[1]Pereyra N,[2]Cane J,[3]CaneF,[1,3]Cane V,[3]Picatto G,[1]Comba E.
[2]Microbiology, Facultad de Ciencias Veterinarias, Universidad Nacional de Rosario; [1]Becas Promoción Científica 2016; MEDAX, Chañar Ladeado, Santa Fe. E-mail: npereyra@medax.com.ar

*Escherichia coli*is part of pig intestinal microflora; some strains are pathogenic and classified into pathotypes based on the production of virulence factors. The increased frequency of *E. coli* isolates with antimicrobial resistance in pigs has been reported, but there are not recent studies that characterize our region. The aim of this investigation was to verify the sensitivity of strains of *E. coli* isolated from pigs with diarrhea to antimicrobialsusing in pig farms of Santa Fe and Córdoba provinces during 2018, and compare it with that registered in 2011 in the same area (Pereyra NB. et al, XI SBR Congress, 2011). Thirty cases of pigs with diarrhea were studied during 2018. Organs and feces were collected from animals of each case. *E. coli* strains were isolated, their sensitivity for antimicrobials for use in swine was checked (Kirby-Bauer method) and then compared with that obtained with the same method in *E. coli*strains isolated under the same conditions during the year 2011. A decrease in sensitivity was detectedspecially in streptomycin, that fell from 84% in 2011 to 0% in 2018, enrofloxacin (32% to 3%), florfenicol (33% to 7%), amoxicillin (14% to 0%), gentamicin (76% to 50%), ceftiofur (62% to 40%) and oxytetracycline (8% to 0%). There was a slight increase of sensitivity to fosfomycin (75% to 83%) and to trimethoprim/sulfamethoxazole (7 to 11%). The sensitivity to lincomycin was always 0%. The isolation of multiresistant *E. coli*from pigs with diarrhea is common.The use of antimicrobials should be monitored for its adverse effects on human and animal health.

A63

VIMENTIN (+) MACROPHAGES IN RABBIT CECAL APPENDIX

Roma SM [1], Pérez FA[1], D'Ottavio AE[2]
[1]Cátedra de Histología y Embriología. Facultad de Ciencias Médicas. UNR. [2]Consejo de InvestigacionesUNR.
E-mail: stellaromamastr@gmail.com

The cecal appendix, a developed organ in the rabbit,lodges almost 50% of the gut associated lymphatic tissue (GALT) and induces the mucosal immune response. The GALT epithelium not only acts as a regulator for the continuous and controlled transfer from the lumen content but also as a vulnerable barrier to pathogens. On the other hand, lymphoid follicles show proliferation and maturation of lymphocytes, which if not accurately achieved end in apoptosis. In these sites, themajor role in phagocytosis played by mucosal macrophages would explain their quantity. Different populations of phagocytes, some in the subepithelial dome and others inside the lymphoid follicles, have been studied in several species, humans included. This communication analyzes morphologically macrophagic aggregates in the periphery of the rabbit cecal appendix lymphoid follicles, not reportedyet.Samples were removed from six New Zealand rabbits (three of each sex), stained with Hematoxylin and Eosin, immunohistochemically exposed to the anti-

Vimentin antibody (Vim), and examined with conventional optical microscopy. Qualitatively, macrophages locatedin the follicular periphery, with wide acidophilous cytoplasm and Vim (+),showed tendency to aggregation. Quantitatively, the absolute frequencies of such macrophagic aggregates (AM) were recorded in 20 lymphoid / animal follicles. Presence of AM was 53 in females and 9 in males whilst its absence was 7 in females and 31 in males (X^2 *0.0001*). The characteristicfilaments of vimentin in macrophages could indicate that these are mature cells with engulfed cytoplasmic material. Since the rabbit needs certain bacterial populations to diversify the immunoglobulin repertoire, these large macrophage aggregates could be strategic possibly transferring microbial antigens from the lumen of the organ to the expansion site of B lymphocytes. On the other hand, the significant greater presence AM in females could influence the immune response as well as the susceptibility to autoimmunity in a different way to that occurring in males.

A64
SOMACLONAL VARIANTS IN AUTOTRIPLOIDS OF *Musa* spp. *"AAA"* DETECTED BY POLYMORPHISM OF LENGTH OF AMPLIFIED FRAGMENTS

Ermini, J L[1],Pratta G R[1], Parisod, C[2].
[1]*IICAR-UNR (Universidad Nacional de Rosario, Consejo Nacional de Investigaciones Científicas y Técnicas), Zavalla, Argentina.* [2] *IPS - UNIBE (Institute of Plant Sciences, University of Bern), Bern, Switzerland. E-mail: joseluis.ermini@unr.edu.ar*

Micropropagation technique is commonly used in plant *in vitro* regeneration because of the rapid increase number of individuals from a single elite genotype and elimination of pathogens in a short time are the benefits of this biotechnological technique Edible banana hybrids (*Musa spp*"AAA") are micropropagated because their autotriploid genomes causes sterility. Hence, micropropagation is an alternative to propagation by rhizomes. However, *in vitro* regeneration may cause a phenomenon known as somaclonal variation. Subcultured plants can present molecular polymorphisms due to micropropagation. The aim of this work was to compare the profiles generated by the molecular technique of Amplified Fragment Length Polymorphism (AFLPs) in plants regenerated *in vitro* (subclones) with the initial explant. The AFLP protocol was applied with 24 combinations of primers. The DNA extracted from plant in the establishment medium and from 4 subclones in 6th subculture were tested. 131 amplicons were achieved and 99 were monomorphic. This indicated a 24.43% polymorphism. The binary matrix constructed by the presence / absence of the polymorphic amplicons was analysed by a biplot (Principal Coordinates Analysis) and a Dendrogram (Cluster Analysis), both being generated with *Dice* distance. The molecular profiles showed differences between subclones and the genotype of the initial explant. The polymorphism was produced by the *in vitro* culture. In the biplot, the first two Coordinates explained 71.0% of the variability of the data and the Dendrogram showed a 0.927 of cophenetic correlation. In both analyses, subclones were grouped according to the individual from the 3rd sub culture time. In addition, the cluster of subclones by Multivariate Analysis correlated with the 3rd subculture. That indicates that once the somaclonal variation was produced, it is conserved through the subsequent regeneration cycles, creating somaclonal lineages that diverge during the micropropagation.

A65
KINETICS OF GAS PRODUCTION IN RUMEN BY NATIVE HERBACEOUS FORESTS OF DELTA OF THE PARANÁ RIVER

Figallo, Roberto[1,2]; Smacchia, M. Laura[1]; Pidello, Alejandro[1,2] y Smacchia, Ana[1]
[1] *Cátedra de Química Biológica. Facultad de Cs. Veterinarias. Universidad Nacional de Rosario (UNR).* [2] *CIUNR. O. Lagos y Ruta 33. Casilda. Santa Fe. E-mail: rfigallo@unr.edu.ar*

The Paraná River Delta is an area towards which livestock production has been displaced due to the intensification of agriculture in the Pampean region. Although it has a great biological diversity, there is little information available on the native flora with forage potential with respect to its productive performance, chemical composition, degradation and fermentation pattern in the rumen, etc. The objective was to describe the kinetics of gas production in the rumen *in vitro* by native herbaceous from islands of the upper delta of the Paraná River. The native herbaceous plants used were: (C1) *Panicumpernambusence*(Spreng.) Pilg., (C2)*Panicumelephantipes*Nees ex Trin.*, (C3)*Echinochloapolystachya*(Kunth) Hitchc. (Poacea), (EC) *Eichhorniacrassipes*(Mart.), (EA) *Eichhorniaazurea* (Sw.) Kunth (Pontederiaceae), (PA) *Polygonumacuminatum*Kunth (Polygonaceae) and (VL) *Vignaluteola* (Jacq.)Benth. (Leguminosae).The samples were collected in the islands located at the height of km 430 of the Paraná River, in front of Rosario city, Province of Santa Fe, in the period of summer spring growth, once a month, in pre-flowering state, by cutting with scissors, dried at 60 ° C, ground and sieved at 2 mm. With the samples of each herbaceous a composite sample was made. In vitro incubation systems were used, consisting of 50 cc glass bottles, closed with a rubber stopper, connected to 20 ml glass syringes, loaded with ruminal fluid (RF) from 2 female sheep of the Pampinta breed fed with alfalfa hay (Smacchia, 1995). The RF obtained in the two animals 2 h after the start of the ingestion, filtered with 2 mm mesh, was mixed in equal parts. The systems were loaded with 30 ml of RF and 300 mg of samples of plant species (C1, C2, C3, EC, EA, PA and VL), maintained at 39oC for 24 h in a water bath and manually shaken at regular intervals. Systems loaded only with RF were used as control. Three incubations were made and triplicated in each treatment. The gas produced (1, 3, 6, 12 and 24 h) was measured by displacement of the plunger of the syringe. The results were studied by ANDEVA and Tukey test (p> 0.01). In addition, the data obtained in the gas production were adjusted to the Orskov and Mc Donald model (1979): Gas (ml) = a + b (1 - e^{-ct}), where **a** quickly fermentablefraction, **b** slowly fermentablefraction, **c** the gas production rate. Differences (p <0.01) in the gas production due to plant species and between incubation schedules were observed. Fraction a was in C1: -0.464; C2: -1.061; C3: -2.444; EA: 0.042; EC: -0.099; PA: -0.399 and VL: -1.047 ml. Fraction b was 15.74; 85.30; 4.83; 10.48; 18.24; 22.74 and 17.22 ml in C1, C2, C3, EA, EC, PA and VL, respectively. The gas production rate was in C1: 0.0815; C2: 0.0048; C3: 0.6907; EA: 0.0672; EC: 0.0012; PA: 0.0479 and VL:

A66
STUDY OF THE DISTRIBUTION OF THE FORAGE GRASS *Paspalum notatum* FLÜGGÉ IN AMERICA

Mossotti, G[1], Anibalini, V[1], Galetti, L[1]; Grierson, C[1]; Prado, DE[1, 2]
[1]*Botánica Morfológica y Sistemática Agronómica, Fac. Cs. Agrarias.* [2]*Instituto de Investigaciones en Ciencias Agrarias de Rosario, IICAR-CONICET.Zavalla, Argentina. E-mail: veroanibalini@gmail.com*

Knowing the range or geographical distribution area of a taxon is the basic element of any study and is extremely important, not only to understand its biology, but also to make taxonomic, management and conservation decisions. The valuable forage *Paspalumnotatum* Fl. belongs to the Poaceae Family, Panicoideae Subfamily, Paniceae Tribe. The genus *Paspalum* comprises perennial, stoloniferous herbs. Blades linear to linear-lanceolate, glabrous to sparsely hairy, with shortligule; pseudoligula present, brief. Floriferous shoots, 30-80 cm high, paucinodes. Inflorescence constituted by unilateral spiciform clusters of a pair at the end of the floriferous canes, ending in a sterile prolongation. Spikelets broadly ellipsoid, solitary, distributed in 2 series. Fruit a caryopsis. The species has two varieties: *P. notatum* var. *notatum* and *P. notatum* var. *saurae*. Both infraspecific taxa are differentiated by the morphology of the lamina, the size of the spikelet and the level of ploidy. The type variety has a wider geographical distribution than the var. *saurae*, extending from Mexico, Central America and the Caribbean Islands to Brazil, Paraguay, Uruguay and Argentina. It frequently inhabits pastures in low fields, edges of forests and roads, forming turfgrasses. Meanwhile, var. *saurae* extends to the south of Brazil, Paraguay and Argentina, growing in floodablefields and in sandy soils reaching the northern part of the Pampean region. *Paspalum notatum* is important forlivestock production, mainly in marginal areas, as it is excellent palatable forage, productive and tolerantto trampling. The objective of this work is to study the geographical distribution of *Paspalum notatum* in America, for both varieties.The methodology consisted of: bibliographic review, consultation of the 'Juan Pablo Lewis FCA-UNR' Herbarium database and the use of the online database Global Biodiversity Information Facility (GBIF). For the construction of the distribution map, the DIVA-GIS free software was used.As a result, a geographical distribution map of the species both varieties is presented, observing occurrences both in the already known distribution areas, as well as in other agroecological zones not reported until now. It is worth noting the great similarity of the distribution pattern of this species, with that of the Seasonal Dry Forests of Latin America and the adjacent savannas. Except for its absence in the most arid sectors of these forests and savannas (eg, Caatinga, Cerrado and the Caribbean of Colombia and Venezuela), in the rest the species seems to follow a very similar distribution pattern. This opens the way to new studies on the species, and also allows us to infer the great ecological plasticity of this native forage, which is limited by the low temperatures (to the south) and the scarcity of rainfall in certain regions.

A67
ADVANCES IN THE PHYLOGENETIC AND BIOGEOGRAPHICAL STUDY OF THE GENUS *Celtis* (CELTIDACEAE) FOR SOUTHERN SOUTH AMERICA

Chamorro D. [1,2], Mogni V. [1,2], Oakley L. [1], Ortiz J. P. [1,2], Prado D. [1,2]
[1]*Facultad de Ciencias Agrarias,* [2]*IICAR-CONICET, UNR, CC Nº 14 (2125) Zavalla, Santa Fe, Argentina.*
E-mail: chamorro@iicar-conicet.gob.ar

The genus *Celtis* (Celtidaceae) is represented by around six woody taxa in Southern South America, whose biogeographical distribution is restricted to the Domain of Neotropical Seasonal Dry Forests, and to the subtropical Chaco and Espinal regions.The genus presents important taxonomic problems; one of the most emblematic cases is that of *C. ehrenbergiana* (Klotzsch) Liebm., considered a very ample taxon encompassing both *C. pallida*Torr. and*C. tala* Gillies ex Planch. In addition, other entities of unclear taxonomical status are *C. brasiliensis* (Gardner) Planch.,*C. chichape* (Wedd.) Miq.,*C. iguanaea* (Jacq.) Sarg.y*C.pubescens* (Kunth) Spreng. These taxonomic problems no longer tolerate the classical morphological studies, therefore they will be additionally analyzed through the amplification and sequencing of molecular markers (ITS, *trnL-F*, *rps*16y *ndhF*).Then, the morphological and molecular data will be combined to define the taxonomic entities correctly, to give a more complete and accurate idea of the phylogenetic pattern, as well as to infer the biogeographic history of the genus in South America.After extensive field sampling in Argentina and Paraguay and consultation of specimens in national and international herbaria, a detailed morphological study was carried out. Through a Principal Components and Groups Analysis, relevant preliminary results were obtained.First, it is confirmed that what is currently considered in Argentina as *C. ehrenbergiana* actually involves three entities: *C. tala*, *C. pallida* var. *pallida* and *C. pallida* var. *discolor* Hunz. & Dottori.Besides, an additional complex of species can be defined, consisting of *C. brasiliensis*, *C. iguanaea* and *C. chichape*; this reveals that only with morphological characteristics these entities cannot be resolved.Finally, the molecular techniques were optimized tostart with DNA extractions and amplification of nucleotide sequences, thus completing the phylogenetic and biogeographical analysis

A68
ANALISYS OF COMPLEMENT RECEPTOR 1 HAPLOTYPES IN ARGENTINEAN PEOPLE

TruccoBoggione C[1],D´Attilio L[1],Mufarrege N[1], Fernandez R[1],Principi C[1],Díaz A[1],LujánBrajovich M[1], Mattaloni S[1],Gardeñez W[2], Bay M[1],Cotorruelo C[1]
[1]*IDICER-CONICET.* [2]*Servicio de Neumonología del Hospital Provincial del Centenario. E-mail: ctrucco@fbioyf.unr.edu.ar*

The human Complement Receptor 1 (CR1) is a membrane glycoprotein found in the majority of peripheral blood cells, especially erythrocytes and macrophages.CR1 mediates clearance of immune complexes and phagocytosis of complement-opsonized particles. Five SNPs have been describedin the *CR1* gene. One SNP located in intron 27is responsible for CR1 expression levels on erythrocytes.

The other four SPNsoccur in exon 29 of *CR1* gene and generate Knop´s blood antigens (Kn^a/Kn^b, McC^a/McC^b, Sl1/Sl2 y KCAM$^{+/-}$). Since *CR1* polymorphism has been associated to protective effects in several infectious diseases and because, Tuberculosis (TB) is the first cause of worldwide death produced by microorganism, the *Mycobacterium tuberculosis*(Mtb), the aim of this work was to establish *CR1* haplotypes in DNA samples from donors (D) and TB patients. The five SNPs were studied by PCR RFLP strategies in 122 D and 40 TB samples. The haplotypic and allelic frequencies were calculated using the Arlequin® v3.5.2.2 software. Molecular analyses identified the following haplotypes in the D group:*H-Kn^a-McC^a-Sl1-KCAM$^+$* (Freq: 0.760),*L-Kn^a-McC^a-Sl1-KCAM$^+$* (Freq: 0.189),*H-Kn^a-McC^a-Sl2-KCAM$^+$* (Freq: 0.016),*L-Kn^a-McC^a-Sl2-KCAM$^+$* (Freq: 0.008),*H-Kn^a-McC^b-Sl1-KCAM$^+$* (Freq: 0.004)and*L-Kn^a-McC^b-Sl2-KCAM$^+$* (Freq: 0.004).On the other hand, in TB group the only haplotypes identified were: *H-Kn^a-McC^a-Sl1-KCAM$^+$* (Freq: 0.724) and*L-Kn^a-McC^a-Sl1-KCAM$^+$* (Freq: 0.275). The allelic frequencies detected for both groups were: *H* (D=0.784, TB=0.725), *L* (D=0.202, TB=0.275), *Kn^a* (D=0.999, TB=0.999), *McC^a* (D=0.992, TB=0.999), *McC^b* (D=0.008, TB=0.001), *Sl1* (D=0.971, TB=0.999), *Sl2* (D=0.029, TB=0.001), *KCAM+* (D=0.999, TB=0.999). Although no significant differences were observed in the haplotypic and allelic frequencies between D and TB, haplotypes containing the SNPs *McC^b* and *Sl2* were only identified in D group. This preliminary data suggests that these polymorphisms could be involved in the susceptibility to infection by *Mtb*, considering they were not detected in the TB group.

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