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La Tapa (Ver p. IV)
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medicina
BUENOS AIRES, VOL 77 Supl. I - 2017

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LIII REUNIÓN ANUAL DE LA SOCIEDAD ARGENTINA DE INVESTIGACIÓN BIOQUÍMICA Y BIOLOGÍA MOLECULAR (SAIB)

LXV REUNIÓN ANUAL DE LA SOCIEDAD ARGENTINA DE INMUNOLOGÍA (SAI)

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REUNIÓN DE LA SOCIEDAD ARGENTINA DE HEMATOLOGÍA (SAH)

XXIX REUNIÓN ANUAL DE LA SOCIEDAD ARGENTINA DE PROTOZOOLOGÍA (SAP)

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BUENOS AIRES, VOL 77 Supl. I - 2017

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LIII ANNUAL MEETING OF ARGENTINE SOCIETY OF BIOCHEMISTRY AND MOLECULAR BIOLOGY (SAIB)

LXV ANNUAL MEETING OF ARGENTINE SOCIETY OF IMMUNOLOGY (SAI)

MEETING OF ARGENTINE SOCIETY OF ANDROLOGY (SAA)

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LA TAPA

María Esther Gené, **Imagen ígnea**, 1996.

Acrílico sobre tela, 110 x 95 cm. Cortesía de la Comisión Nacional de Energía Atómica, Predio TANDAR, Centro Atómico Constituyentes. Presidente de la Comisión Organizadora de la Exposición Permanente: Dr. A.J.G.Maroto.

María Esther Gené nació en Buenos Aires. Cursó Historia del Arte y Estética con Blanca Pastor y Nelly Perazo. Se inició en el taller de Centa Bertier y continuó su formación con Miguel Dávila. Participó del grupo de investigación plástica que dirigió Emilio Renart. Integró el Grupo Gen y formó el Grupo Fusión. Realizó numerosas exposiciones colectivas e individuales (Museos Municipal de Bellas Artes de Luján, Fernán Félix de Amador, de Arte Moderno de la Ciudad de Buenos Aires, Fundaciones San Telmo y Banco Mayo, Fundación Andreani, Patio Bullrich, Galería Kristel K., Salón ICCED de Pintura, entre otros). Sus obras se encuentran en colecciones privadas de Argentina, México, Alemania, España, Uruguay y EE.UU.

[1] Comisión Nacional de Energía Atómica. Artistas Plásticos con la CIENCIA, Centro Atómico Constituyentes, Predio TANDAR, Buenos Aires, 1999; En: *http://www2.cnea.gov.ar/xxi/artistas/artistasplasticos.htm*

er, lipid peroxidation presented no significant changes in any case. In conclusion, these results might suggest that resveratrol would be scavenging other ROS during the propagation phase but not in the initiation phase, thus explaining its lack of effect on $O_2^{\cdot-}$ levels produced in vitrification/warming.

Keywords: resveratrol, vitrification, bovine embryos, ROS, superoxide anion.

(328) **MATERNAL OVERWEIGHT ALTERS THE SEXUAL MATURATION IN MALE OFFSPRING BY MODIFYING THE TESTICULAR HISTOLOGY AND TESTOSTERONE LEVELS**

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2 Universidad de Buenos Aires, Facultad de Medicina, Departamento de Toxicología y Farmacología, Buenos Aires, Argentina.
3 Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Instituto de Biología y Medicina Experimental (IBYME), Laboratorio de Neuroendocrinología, Buenos Aires, Argentina.

An appropriate maternal body weight is needed for a normal fetal programming. Previous studies showed that maternal overweight affects the size and body weight, ano-genital distance, sperm count and morphology of the germ cells. Now, we studied whether the maternal overweight affects the testicular morphology and the levels of testosterone. To this end, male offspring from rats fed with standard (OSD) or cafeteria (OCD) diet, with high lipid content, were used. Considering the percentage of maternal overweight, the OCD were divided into two groups: offspring from rats with 25% and higher than 35% of overweight (OCD25 and OCD35, respectively). Offspring always were fed with standard diet and were euthanized at 60 days of age to obtain testes and blood serum. Seminiferous tubular diameter (STD), thickness of the seminiferous epithelium (SE) and tubular lumen diameter (TLD), expressed in μm, and the serum levels of testosterone, expressed in ng/ml, were examined. All data are expressed as mean±SEM and statistical analysis was performed by one-way ANOVA with Dunnett´s multiple comparison test or Kruskal-Wallis test with Dunn´s multiple comparison test. Compared with OSD (STD: 59±2, SE: 15±1), both OCD groups exhibited decrease in STD and SE, although these changes were only significant for OCD35 (STD: 41±4; P<0.001; SE: 8±1, P<0.01). Likewise, OCD35 showed higher testosterone levels (5.2±0.6, P<0.05) than OSD (2.7±0.3). No significant difference was found in that of OCD25 group. In conclusion, our results suggest that an intrauterine environment with high fat content may alter the reproductive ability of the male offspring, at least in part, altering the morphology of the testes and testosterone levels, likely as a result of altering the organogenesis.

Keywords: Overweight, cafeteria diet, testis morphology, testosterone.

(1125) **EFFICIENCY OF EMBRYO TRANSFER IN SHEEP UNDER DIFFERENT NUTRITIONAL STATUS OF DONOR AND RECIPIENT EWES**

María Macarena Bruno Galarraga (1), Marcela Cueto (1), Jimena Fernandez (1), Alejandro Gibbons (1), Rodolfo Luzbel de la Sota (2), Isabel Lacau (3)
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The objective of this study was to evaluate the effect of the nutritional status of embryo donors and recipients on embryo survival after direct transfer of embryos in sheep. The experimental study was carried out at the Reproduction Laboratory Facilities of INTA Bariloche. A total of 36 donor and 75 recipient Merino ewes received either 1.5 (S, Supplemented) or 0.5 (R, Restricted) times daily maintenance requirements (S donors n = 19, R donors n = 17, S recipients n = 36, R recipients n = 39), from the beginning of the estrus synchronization treatment until day 30 post estrus. On day 7 post estrus, one transferable embryo of donor females S or R was transferred into a recipient female S or R, defining the following groups: SS (n = 11), SR (n = 11), RS (n = 25) and RR (n = 28). The concentration of progesterone and metabolic hormones in donor and recipient ewes was determined according to nutritional status. The pregnancy rate on day 17 of gestation was similar between groups (73, 45, 72 and 64% for SS, SR, RS and RR, respectively; P > 0.1). However, embryo losses between days 17 and 35 of gestation were higher in the SR group (18%) than in the other three groups (9, 8 and 7% for SS, RS and RR, respectively; P < 0.1). Moreover, pregnancy rate on day 35 of gestation was lower in the SR group (27%) compared to the other groups (64, 64 and 57% for SS, RS and RR, respectively; P < 0.1). Donors and recipients under nutritional restriction had lower concentrations of IGF-1 (P < 0.01). In conclusion, failure to establish and maintain pregnancy may be related to an asynchrony between an unfavorable uterine environment in restricted recipient ewes and embryos produced by donors in a high nutritional condition.

Keywords: embryo losses, undernutrition, embryo transfer, sheep

(184) **FOXO1 TARGET GENES ARE ALTERED IN THE HEART OF THE OFFSPRING FROM DIABETIC RATS**

Hugo Sato, Sabrina Roberti, Alicia Jawerbaum, Romina Higa
CEFyBO-CONICET-UBA

Cardiovascular alterations in the adult can be developmentally programmed by maternal diabetes. FoxO1 participates in cellular oxidative homeostasis, metabolism and survival of cardiomyocites and its overactivation is related to cardiac dysfunction in diabetes. We have previously found increased FoxO1 levels in the offspring's heart from diabetic rats. FoxO1 activation can be inhibited by serum glucocorticoid kinase 1 (sgk1) phosphorylation that induces FoxO1 nuclear exportation. Connective tissue growth factor (CTGF, regulates fibrosis) and MMP2 (related to inflammatory processes when it is in excess) are FoxO1 target genes. Our **objective** is to evaluate serum markers of heart damage, mRNA levels of CTGF and MMP2 and phosphorylation status of sgk1 in the offspring's heart from control and diabetic rats. **Methodology**: Pregestational diabetic rats were obtained by neonatal streptozotocin administration and were mated with healthy males. Adult male offspring from control and diabetic rats were evaluated. Serum levels of lactate dehydrogenase (LDH) and myocardium creatine kinase (CK-MB) were determined by a commercial kit. In the heart, CTGF and MMP2 mRNA levels were evaluated by qPCR and phosphorylation status of sgk1 by western blot. **Results**: LDH and CK-MB, serum markers of heart damage, were found increased in diabetic offspring compared to control (1.8 and 1.5 fold, p<0.05). mRNA levels of CTGF and MMP2 were increased (2.8 and 2.4 fold, p<0.05 and p<0.01 respectively) and Sgk1 phosphorylation status and ratio of phospho-sgk1/total sgk1 were decreased (p<0.05) in the heart of diabetic offspring compared to controls. **Conclusion:** The increased mRNA levels of FoxO1 target genes involved in profibrotic and proinflammatory processes are probably related with the increased levels of active FoxO1. These alterations could be involved in the increased levels of serum markers of heart damage found in male offspring from diabetic rats.

Keywords: Diabetes, intrauterine programming, FoxO1, heart

(1694) **DIFFERENTIAL GENE EXPRESSION AND HORMONAL REGULATION OF BONE MORPHOGENETIC PROTEIN INHIBITORS IN BOVINE OVIDUCT EPITHELIAL CELLS**

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Bone morphogenetic proteins (BMPs) play important roles in mammalian reproduction and female fertility. Previous studies have