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DEPARTAMENTO DE ANATOMÍA PATOLÓGICA

87th ANNUAL MEETING AMERICAN ASSOCIATION OF NEUROPATHOLOGISTS

HYBRID SCHWANNOMA/PERINEURIOMA OF THE VIII CRANIAL NERVE: CASE REPORT

Facundo Las Heras, Anat Stemmer-Rachamimov

Background: Benign peripheral nerve sheath tumors are classically divided into schwannomas, neurofibromas and perineuriomas; each characterized by a unique histological and immunohistochemical profile. In recent years tumors with hybrid features, composed of multiple, discrete areas of different histological types, were described. These tumors may represent a diagnostic challenge, and their pathogenesis is unclear. We present the first case report, to our knowledge, of a hybrid schwannoma/perineurioma tumor in a cranial nerve. Clinical presentation: 24-year-old woman with multiple sclerosis was found to have a left internal auditory canal mass in a follow-up MRI. She had normal hearing, normal balance and no facial dysfunction. MRI revealed a 1.3 cm TV × 0.7 cm AP T2 isointense lesion within, and possibly minimally expanding, the left auditory canal. Pathology: The lesion was tan-white, nodular, well circumscribed and firm. Histologic examination demonstrated a well demarcated, cellular, solid neoplasm with a biphasic pattern. Most of the tumor was composed of spindle cells arranged in fascicles with focal Verocay body formation and diffuse S100 positivity; consistent with a conventional schwannoma. A second, minor area showed concentric proliferation of neoplastic spindle cells around one or more axons (highlighted with neurofilament immunostaining). Tumor cells in this area were positive for perineurial markers, claudin-1 and Glut-1, and focally immunopositive for CD34; consistent with a perineurioma. Conclusion: We present a case of a benign peripheral nerve sheath tumor with histological and immunohistochemical features consistent with a dual pattern of differentiation of schwannoma and perineurioma, in the VIIIth cranial nerve. Hybrid schwannoma/perineurioma tumors usually arise in the dermis and subcutaneous tissue. This is, to our knowledge, the first case of hybrid perineurioma/schwannoma reported in a cranial nerve.

6th CONFERENCE ON HIV PATHOGENESIS, TREATMENT AND PREVENTION – ROMA, ITALIA

PROSPECTIVE EPIDEMIOLOGICAL STUDY OF THE PREVALENCE OF HUMAN LEUKOCYTE ANTIGEN (HLA)-B*5701 IN CHILEAN HIV-1-INFECTED SUBJECTS.

P. Ferrer, M. Durán, R. Tordecilla, D. Carvajal, J. Galaz

Background: Human leukocyte antigen (HLA)-B*5701 is strongly associated with developing a hypersensitivity reaction to abacavir (ABC) in White and Hispanic subjects. Its absence effectively predicts safe use of ABC in these populations and probably Black Americans Chile does not have reported data on HLAB*5701 prevalence in HIV-1-infected subjects. The objective is to determine HLA-B*5701 prevalence in the general HIV-1-infected population in Chile. Methods: It was an observational prospective study made between 2009-2010. From whole area of Chile, 1103 subjects were recruited between, 55 were positives to the test. All HIV-1-infected adult individuals receiving care at participating centres were eligible prior exposure to ABC. Subjects provided samples for HLA-B*5701 assessment by whole blood. PCR-based technique was used in this high-resolution HLA typing. Results: The prevalence result was a 5.0 %, from whole area of Chile, were positives to the test, and two were negatives with moderate clinical rash reaction. Conclusion: HLA-B*5701 prevalence was, 5.0 %, similar to previously reported rates in White HIV-infected subjects but considerably lower than that reported in Black HIV-1-infected subjects in UK and Spain. These aspects define this test as a useful tool for the management of HIV-infected patients, because this screening method is very successful to identify individuals who could be safely treated with ABC.

DEPARTAMENTO DE CARDIOLOGÍA

HEART FAILURE CONGRESS 2011 - GOTENBURGO - SUECIA

USE OF BETA BLOCKERS IN CHILEAN PATIENTS WITH HEART FAILURE. CHILEAN REGISTRY OF HEART FAILURE: ICARO.

L Sepulveda Morales, R Concepcion, J Vukasovic, E Garcés, V Rossel, P Castro, F Lanás, P Bilbao, R Pacheco.

Purpose: Different registries have shown rate of prescription of Beta Blockers is low in heart failure (HF) patients, despite its beneficial effect on survival. We want to know what the Chilean reality about beta blockers use is. Methods: Prospective registry from 14 Chilean centers. Patients admitted with decompensate HF between January 2002 and August 2010. Demographic and clinical characteristics, echocardiography at admission and prescription at discharge were recorded. Patients with LVEF > 50% were classified as HF with Preserved Systolic Function. Mortality was obtained from certificate databases. Statistical analysis included t-tests, X², Anova and non-parametric test, with $\alpha = 0.05$. Results: A total of 1584 patients were included, 55.5% men. Age was 70.2 ± 13. Etiology of HF was hypertensive in 39.3%, ischemic 26.3%, valvular 16.6% and dilated cardiomyopathy 7.4% of the cases. Hypertension was present in 80.9% of the patients, pulmonary disease 15.3%, peripheral vascular disease 9.6% and 36.3% were diabetic. Health insurance was public in 76.7% and private in 23.3%. Mean left ventricular ejection fraction (LVEF) was 40.98% ± 17.15 and 66.6% of patients had LVEF < 50%. The discharge treatment included ACE inhibitor or Angiotensin II receptor antagonist in 57.7%, Spironolactone 39% and Beta Blockers (BB) 40.3% (atenolol 21.7%, carvedilol 5.9%, other 13.6%). Women (38.1 v/s 61.9%, $p < 0.05$) and patients with pulmonary disease (24.1 v/s 75.8%, $p < 0.001$) use significantly less BB, there were no differences by age, diabetes and peripheral vascular disease. Patients with private insurance received significantly more frequently BB (55.8%) than patients with public insurance (35.7%), $p < 0.001$. 50.7% of cases with LVEF < 50% use BB versus 32.8% of patients with LVEF > 50% ($p < 0.001$). Survival was significantly better in patients with BB ($p < 0.001$). Conclusions: Beta blockers are underutilized in Chilean HF patients. There are significant differences in BB use by sex, insurance and co-morbidities. Patients who receive BB have better survival.

DEPARTAMENTO DE CIRUGÍA

INTERNATIONAL SURGICAL WEEK OF INTERNATIONAL SOCIETY OF SURGERY - JOKOHAMA, JAPON

LAPAROSCOPIC CALIBRATED FUNDOPLICATION AND ACID SUPPRESSION/DUODENAL DIVERSION PROCEDURE FOR NON OBESE OR OBESE TYPE I PATIENTS WITH LONG SEGMENT BARRETT'S ESOPHAGUS.

I. Braghetto, O. Korn, H. Valladares, L. Gutierrez, L. Brunet

Introduction: Laparoscopic antireflux surgery is very successful in patients with short-segment Barretts esophagus, but in patients with long-segment Barretts esophagus the results remain in discussion. In these patients, during the open era surgery, we have performed acid suppression + duodenal diversion procedure added to the antireflux procedure (fundoplication + vagotomy + antrectomy + Roux-en-Y gastro-jejunosomy), in order to obtain better results at long term follow-up. In obese patients with morbid obesity, gastric bypass has been suggested as very successful procedure controlling both obesity and reflux disease. For non obese or type I obese patients we must offer a surgical procedure with these 2 purposes: controlling acid and bile reflux and decrease adequately their overweight if they need it. Material and Methods: We present our laparoscopic technique and results performed in 40 non obese or obese type I patients with LSBE with BMI between 25 and 35 kg/m² who were submitted to fundoplication or acid suppression duodenal diversion technique,(Calibrated fundoplication + Antrectomy + Roux en-Y-Gastrojejunosomy), performed by laparoscopic approach. Results: Patients with long segment BE, submitted to acid suppression- duodenal diversion surgery, presented successful results regarding to recurrent symptoms and endoscopic improvement of esophagitis in more than 95% of cases. Regression of intestinal metaplasia to cardiac mucosa was observed in 61% of patients. In non obese patients BMI decrease from 28.2 ± 2.7 to 24.8 ± 1.7 and in type I obese patients BMI decreased from 33.2 + 2.9 to 26.0 + 1.7 kg/m². Conclusion: In non morbid obese patients with LSBE we suggest to perform fundoplication plus acid suppression/ duodenal diversión procedure due to very successful long term results regarding to GERD and obesity control, obtaining regression of intestinal metaplasia in 60% of the patients.

EXTRACRANIAL INTERNAL CAROTID ARTERY ANEURISM

M.I. Ramirez, R.E. Urrutia, A.A. Campos, M.E. Mellafe, CF Ramirez, M.I. Ramirez Jr., L. Moyano, I.A. Ramirez.

Extracranial Internal Carotid Artery Aneurysm (EICAA) is a very uncommon disease first described and surgically treated by Sir Astley Cooper in 1808. Due to the potential danger of stroke or rupture with death, this disease must be promptly treated. During long time open surgery was the first choice treatment (at first only ligation and after 1952 resection with arterial reconstruction). In particular cases currently can be useful the endovascular approach. Material and Methods: CASE REPORT. A 56-year old woman with a severe hypertension presented to us with a 3 months history of headaches, dysphagia, and a slowly progressive growing of a pulsatile mass in the left side of the neck. There was no evidence of previous TIA or stroke. Ultrasound imaging and CT angiography showed a 4 cm. aneurysm of the initial part of the left internal carotid artery (Figs. 1, 2). Results: Open surgery was carried out. A big EICAA was found, and a transposition of the external carotid artery to the distal ICA with previous exclusion of the aneurysm and without use of shunt was performed (Figs. 3, 4, 5.). Hystologic study of the specimen showed atherosclerosis (Fig. 6). Surgical outcome was uneventful, and late CT examination showed only expected changes (Fig .7). Conclusions: DISCUSSION. EICAA is an unusual condition with only few reports in the medical literature, and the atherosclerotic etiology is the most frequent (60%). EICAA represents approximately 2% of all peripheral arteries aneurysms. Surgery for EICAA constitutes 0, 1 to 2% of all carotid arterial interventions. From the symptomatic EICAA, 60% experiences TIA and 8% obvious stroke. Around 2% experiences rupture, with great mortality and morbidity. Although ultrasound imaging is initially useful, 3D CT angiography and MRI angiography are the definitive diagnostic methods and necessary in planning surgical strategy. Since 1970s reconstruction of the carotid arterial system became the standard treatment modality, through different possibilities: primary end-to-end anastomosis of the ICA, interposition graft (vein or PTFE) or by transposition of the ECA when the common carotid artery is free of disease. Endovascular approach may be used also in appropriate cases as an alternative to surgical therapy.

AHS CONGRESS (AMERICAN HERNIA SOCIETY) – SAN FRANCISCO, USA.

MESH REMOVAL INDICATIONS IN HERNIA SURGERY.

J Rappoport, J. Robles, M. Albán, J. Silva, A. Debandi, D. Rappoport, V. Azabache.

Introduction: More than one million meshes are implanted annually in the world. The monofilament and macroporous polypropylene mesh has excellent clinical outcomes. There is few information in the literature concerning the potential adverse effects of the synthetic meshes. The aim of the present study is to analyze the indications of mesh removal at the Department of Surgery of the University of Chile Clinical Hospital. Introduction: More than one million meshes are implanted annually in the world. The monofilament and macroporous polypropylene mesh has excellent clinical outcomes. There is few information in the literature concerning the potential adverse effects of the synthetic meshes. The aim of the present study is to analyze the indications of mesh removal at the Department of Surgery of the University of Chile Clinical Hospital. Results: 2,833 mesh implants for hernia repair were performed in this period. In 12 patients (0.4%), the mesh was removed: 8 women and 4 men, with a mean age of 60.7 ± 7.9 years. Mesh removal indications were: chronic suppuration (6 cases, after multifilament polyester suture), acute infection (2 cases), hernia recurrence (2 cases), chronic pain (1 case) and chronic seroma (1 case). Surgical specimen biopsies showed a persistent chronic foreign body reaction with granulomatous inflammatory process. Treatment was either: - Surgery in one time: removal and replacement mesh. - Surgery in stages: removal of foreign body, antibiotics and later removal and replacement mesh. The postoperative course was favourable. No postoperative complications or recurrences were observed, with an average follow up of 12 months. Results: 2,833 mesh implants for hernia repair were performed in this period. In 12 patients (0.4%), the mesh was removed: 8 women and 4 men, with a mean age of 60.7 ± 7.9 years. Mesh removal indications were: chronic suppuration (6 cases, after multifilament polyester suture), acute infection (2 cases), hernia recurrence (2 cases), chronic pain (1 case) and chronic seroma (1 case). Surgical specimen biopsies showed a persistent chronic foreign body reaction with granulomatous inflammatory process. Treatment was either:

- Surgery in one time: removal and replacement mesh. (Figure 4)

- Surgery in stages: removal of foreign body, antibiotics and later removal and replacement mesh. (Figure 5).

The postoperative course was favourable. No postoperative complications or recurrences were observed, with an average follow up of 12 months.

PROGRESSIVE PREOPERATIVE PNEUMOPERITONEUM IN INCISIONAL HERNIA – A COMPUTED TOMOGRAPHY ASSISTED PERFORMANCE ANALYSIS

Rappoport J, Papic F, Alban M, Silva J, Azabache V, Kattan M, Rappoport D, Herquiñigo D.

Introduction. The progressive postoperative pneumoperitoneum (PPP) is used empirically in the treatment of complex incisional hernias (IH). Since recently, CT is being employed to characterize the technique. Tanaka recently described a method for measuring the abdominal and hernia sac volumes. Dumont determined the effects of PPP on the length of abdominal muscles. Beside these works, further evaluation of the method is lacking. Materials and method. PPP was performed in 5 patients large IH. CT scans were performed before and after PPP. The volumes of the abdominal cavity and hernia sac, length of the abdominal muscles and visceral volume were evaluated. Results. Respectively, before and after PPP, the mean abdominal cavity volume (mL) was 10.708 ± 1525 and $15.100 \pm 1617^*$, the mean hernia sac volume (mL) was 1260 ± 706 and $2123 \pm 756^*$, the length of the right lateral abdominal muscles (LAM) (cm) was 19.14 ± 2.30 and $24.56 \pm 0.95^*$, the length of the left LAM (cm) was 20.53 ± 2.90 and $26.37 \pm 1.91^*$ and the length of the abdominal perimeter (cm) was 51.91 ± 5.63 and $65.49 \pm 4.29^*$. The estimated visceral volume decreased by a $36.36 \pm 12.9996^*$ ($*=p<0.05$). Discussion. The PPP caused an increased in the length of the lateral abdominal muscles and abdominal muscular perimeter. The volume of the hernia sac and the abdominal cavity increased, but the relationship between them remained constant. Visceral volume decreased for accommodating the insufflated air, probably due to a reduction in the diameter of the intestinal loops, the amount of splanchnic venous blood and interstitial fluid of abdominal tissues. Conclusion. The CT is useful in the preoperative preparation of selected cases of complex incisional hernias. The reduction in visceral volume demonstrated in the present study is a new objective that, as the change in the length of the abdominal muscles demonstrated by Dumont, aids in the objectivation of the PPP performance.

2ND WORLD CONGRESS ON INTERVENTIONAL THERAPIES FOR TYPE 2 DIABETES 24 (YIA) – NEW YORK, USA

METABOLIC RESULTS OF MODIFIED GASTRIC BYPASS IN PATIENTS WITH TYPE 2 DIABETES MELLITUS AND BMI < 35 KG/MT².

Enrique Lanzarini; Attila Csendes; Luis Gutierrez; Hanns Lembach; Juan C. Molina; Maher Musleh; Karin Papapietro; Veronica Araya.

Introduction: Surgical management of Type 2 Diabetes (T2DM), also called metabolic surgery, in patients with BMI <35Kg/mt², is currently under investigation. Objective: Report metabolic results of modified gastric bypass for the treatment of T2DM in patients with BMI <35 during a 2 year follow-up period. Methods: Prospective protocol that included T2DM patients with BMI <35Kg/mt² who underwent modified gastric bypass, with a 2 mt biliary limb and 1 mt alimentary limb, from July 2008 to October 2010. Results: Forty three patients were included, 21 men and 22 women, with an average age of 51 years and mean BMI of 31.5 Kg/mt². The median time of progression of type 2 diabetes was 6 years. The preoperative average glycemia was 161 mg / dl, glycosylated hemoglobin 8.1% and C-peptide 3.5 ng/ml. The average postoperative follow-up was 16 months. At 24 months of follow-up glycemia descended to 83 mg/dl, glycosylated hemoglobin to 5.8%, BMI to 24.2 and the beta cell activity increased in 40%. After 2 years of follow-up, 95% of patients met criteria for remission and 5% improved their metabolic conditions. Non of them remain in the same condition or worse. Conclusions: Modified gastric bypass represents a safe and effective procedure in controlling glycemia and weight, in patients with T2DM and BMI <35. These results remained stable during 24 month follow-up.

IV LATIN-AMERICAN CONGRESS OF BARIATRIC AND METABOLIC SURGERY - CARTAGENA DE INDIAS – COLOMBIA

GASTRECTOMIA TUBULAR VERTICAL Y DISLIPIDEMIA: SEGUIMIENTO A 1 AÑO.

E. Lanzarini, A. Csendes, I. Braghetto, L. Fernández, J. Lasnibat, C. Novoa, H. Lembach, J.C. Molina, L. Gutierrez K. Papapietro

Introducción: La gastrectomía tubular vertical (GTV) se ha consolidado como una opción quirúrgica para la obesidad y sus condiciones asociadas. Los efectos sobre el perfil lipídico están en discusión. Objetivo: Evaluar la evolución del perfil lipídico en pacientes obesos dislipidémicos sometidos a GTV a 1 año de seguimiento. Material y método: Estudio retrospectivo que incluye 108 pacientes obesos portadores de dislipidemia operados entre el año 2004 y 2010, seguidos con perfil lipídico a los 6 meses y al año. Análisis estadístico con prueba T-student para grupos pareados. Resultados: La serie consta de 91 mujeres (84,2%) y 17 hombres (15,7%), con IMC promedio de 37,3. El 58,3% tenían colesterol mayor a 200mg/dl y el 55,5% tenían triglicéridos mayor a 150 mg/dl. El promedio de colesterol total evoluciona desde 214,6 mg/dl a 196,9 mg/dl al año. El colesterol LDL promedio de 128,9 mg/dl a 110,1 mg/dl al año. El promedio de colesterol HDL evoluciona desde 48,8 mg/dl a 59,5 mg/dl al año. Respecto a los Triglicéridos, el promedio preoperatorio era de 183,1 mg/dl, disminuyendo a 118,5 mg/dl al año de seguimiento. Las diferencias entre los valores preoperatorios y el seguimiento a un año fueron estadísticamente significativas ($p < 0.05$). Conclusión: En nuestra serie, la GTV en pacientes dislipidémicos reduce en forma significativa los triglicéridos (disminución de un 35,5%), reduce en forma discreta el colesterol total (reducción 8,4%) y LDL (reducción 14%), y aumenta el colesterol HDL (aumento 20,9%).

EFFECTO METABOLICO DE LA GASTRECTOMIA TUBULAR VERTICAL EN PACIENTES OBESOS MORBIDOS CON DIABETES MELLITUS 2.

E. Lanzarini, A. Csendes, I. Braghetto, J. Lasnibat, L. Fernández, C. Novoa, H. Lembach, J.C. Molina, L. Gutierrez, K. Papapietro

Introducción: La Gastrectomía Tubular Vertical (GTV) logra una adecuada baja de peso en pacientes obesos, disminuyendo la insulinoresistencia lo que mejoraría el control glicémico en pacientes diabéticos. Objetivo: Reportar los resultados metabólicos de la GTV en pacientes obesos con Diabetes Mellitus 2 (DM2) operados entre el año 2004 y 2010. Material y Método: Estudio retrospectivo que incluye pacientes con DM2 sometidos a GTV, desde Julio del año 2007 hasta Octubre del 2010. Se realizó análisis estadístico con prueba T-student para grupos pareados. Resultados: Serie de 24 pacientes, 4 hombres y 20 mujeres, edad promedio 51 años, e IMC promedio 36,3 Kg/mt². El tiempo promedio de evolución de la DM2 fue 5 años. En el preoperatorio la glicemia promedio fue 171 mg/dl, la hemoglobina glicosilada fue 7,4 %. El promedio de seguimiento postoperatorio es 28 meses. En el post-operatorio la glicemia promedio a 12 y 36 meses descendió a 93mg/dl

y 101 mg/dl respectivamente. La hemoglobina glicosilada evaluada al año fue de 5,3%, el IMC promedio a 12 y 24 meses fue de 27,2 y 27,8 Kg/mt² Actualmente el 83% de los pacientes cumple con criterios de remisión, el 17% mejoría y ningún paciente se encuentra igual o peor. Conclusión: En nuestra serie la GTV es un procedimiento efectivo en el control glicémico de los pacientes obesos mórbidos con DM2 con una baja de peso hasta niveles de sobrepeso, resultados que se mantienen a 28 meses de seguimiento.

TRATAMIENTO QUIRURGICO DE LA DIABETES TIPO 2 EN PACIENTES CON IMC MENOR A 35 KG/MT2.

E. Lanzarini, A. Csendes, L. Gutiérrez, H. Lembach, J.C. Molina, M. Musleh, K. Papapietro, V. Araya.

Introducción: Se denomina Cirugía Metabólica al manejo quirúrgico de la Diabetes Tipo 2 (DM2) en pacientes con IMC menor a 35Kg/mt², lo que se encuentra actualmente en etapa de investigación. Objetivo: Reportar los resultados metabólicos del bypass gástrico modificado como tratamiento de la DM2 en pacientes con IMC menor a 35, a 2 años de seguimiento. Material y Método: Protocolo prospectivo que incluye pacientes con DM2 e IMC < 35Kg/mt² sometidos a by pass gástrico modificado, con asa bilio-pancreática de 2mt y asa alimentaria de 1mt, desde Julio del año 2008 hasta Octubre del 2010. Resultados: Serie prospectiva de 43 pacientes, 21 hombres y 22 mujeres, edad promedio 51 años, e IMC promedio 31,5Kg/mt². El tiempo promedio de evolución de la DM2 fue 6 años. En el preoperatorio la glicemia promedio fue 161 mg/dl, la hemoglobina glicosilada fue 8,1% y Péptido C 3,5 ng/ml. El promedio de seguimiento postoperatorio es 16 meses. En el Post operatorio la glicemia promedio a 24 meses descendió a 83mg/dl, hemoglobina glicosilada a 5,8%, el IMC a 24,2 y la actividad de la célula beta aumentó en un 40%. Actualmente el 95% de los pacientes cumple con criterios de remisión. Conclusión: En pacientes con DM2 e IMC menor a 35 el bypass gástrico modificado es un procedimiento seguro y efectivo en el control glicémico, con una baja de peso hasta niveles normales, resultados que se mantienen a 24 meses de seguimiento.

DEPARTAMENTO DE MEDICINA

ENDOCRINOLOGÍA

4th INTERNATIONAL CONGRESS ON PREDIABETES AND THE METABOLIC SYNDROME – MADRID, ESPAÑA

PERIODONTAL DISEASE AND CARDIOVASCULAR RISK FACTORS IN NON DIABETIC SUBJECTS.

V. Araya, V. Pavez, F. Cordero, C. Wolff, P. Durruty, D. Seelenfreund, G. Lopez.

Periodontal disease (PD), has been related with cardiovascular risk. Chronic activation of the inflammatory response could be involved. Objective: To evaluate in non diabetic subjects anthropometric, metabolic, and inflammatory parameters. To evaluate periodontal health status and severity of PD. Methods: 117 subjects were included, 18 to 70yo . Anthropometric parameters and fasting blood sample were obtained. According to the periodontal exam they were classified as: healthy (0), light to mild PD (1) and severe PD (2). Glycemia, lipid profile, IL-6, TNF-alpha, usCRP and Cistatin C were determined. Results: 30 males and 87 females were evaluated. 66.6% had BMI over 26 kg/m² and 81% had PD: 42.7% (1) and 38.4% (2). Table 1 shows some clinical and biochemical characteristics. There were not differences in smoking, IL-6 or TNF-alpha. Conclusions: periodontal disease is frequent in our population and the severity is associated with obesity and CV risk factors: dyslipidemia, elevated usCRP and Cistatin C.

MEDICINA NUCLEAR

58th ANNUAL MEETING SNM (SOCIETY OF NUCLEAR MEDICINE) - SAN ANTONIO, TEXAS, USA.

SPECT EVALUATION OF REGIONAL CEREBRAL BLOOD FLOW IN MAJOR DEPRESSIVE DISORDER: EFFECT OF THERAPY AND RELATIONSHIP WITH ENDOTHELIAL DYSFUNCTION MARKERS.

Jaimovich, Rodrigo; Massardo, Teresa; Saez, Claudia; Quintana, Juan C.; Risco, Luis; Galleguillos, Tamara; Araya, Veronica; Liberman, Claudio S.; Castro, Gabriel; Pereira, Jaime.

Objectives: Patients with major depression are usually treated with selective serotonin reuptake inhibitors (SSRIs) and could exhibit abnormal regional cerebral blood flow (rCBF) that is not fully understood. In a preliminary study we demonstrated that decreased rCBF is weakly associated with increased endothelial dysfunction (ED) via circulating endothelial cells (CECs) and soluble Intercellular Cell Adhesion Molecule (sICAM). The goal was to evaluate the effect of SSRIs therapy on rCBF and its association with ED markers in major depression. Methods: We included 31 untreated unipolar depressive patients (age 37.5 ± 11 y.o.; 81% females) studied with ^{99m}Tc -ECD brain SPECT at baseline and 2 months post-SSRIs therapy. We measured diminished rCBF extension and intensity (normal cutoff = 66% of maximal) and applied SPM5 software for group analysis comparison. We determined CECs and plasmatic sICAM at baseline and post-treatment. Hamilton scores (HAMD) were used to evaluate clinical response. Results: Global rCBF decrease was observed in all patients without significant frontal or prefrontal change post-therapy. Initial HAMD positively correlated with sICAM ($r:0.617$; $p=0.01$). Post-therapy frontal cortex rCBF correlated with HAMD ($r:0.40$; $p=0.015$). Global brain rCBF at 2 months was also correlated with initial CECs ($r:0.37$; $p=0.037$). SPM5 demonstrated a significant and positive association in rCBF decrease in left amygdala, Brodmann area 25 and right striatum with HAMD and sICAM changes. Conclusions: We demonstrated association between ED markers, mood scores and brain perfusion in major depression. Abnormal rCBF and ED persist after 2 months therapy with adequate clinical response.

10th CONGRESS OF NUCLEAR CARDIOLOGY AND CARDIAC CT- AMSTERDAM, HOLLANDA

PREVALENCE AND DETECTION OF ASYMPTOMATIC ISCHEMIC HEART DISEASE IN PATIENTS WITH DIABETES MELLITUS IN DEVELOPING COUNTRIES: A MULTI-CENTER, INTERNATIONAL STUDY.

F. Mut, R. Giubbini, L. Lusa, T. Massardo, A. Iskandrian, M. Dondi.

Purpose: There is limited information about the prevalence of asymptomatic ischemic heart disease (AIHD) in diabetics in developing countries. The hypothesis of this IAEA-coordinated international trial is that prevalence of AIHD is higher in diabetic patients (pts) than in non-diabetics, and that myocardial perfusion imaging (MPI) is superior to exercise (EX) ECG in detecting ischemia and predicting outcome in these pts. Methods: Pts with type 2 diabetes mellitus (DM) and control subjects (Ctrls) were included in the study at 13 sites in Middle East, Asia, Africa, and Latin America. Inclusion criteria for the DM group were: DM >5 years, age >40 years, near-normal baseline ECG, and lack of prior known CAD. The Ctrl group had at least 1 major risk factor but no DM, and no history of CAD. All pts had gated-SPECT MPI with EX test. The EX ECGs and MPI studies were interpreted blindly in 2 different core labs in the US and Italy. Images were evaluated by visual and automated analysis using a 17-segment model, obtaining summed stress scores (SSS), summed rest scores (SRS) and summed difference scores (SDS). Left ventricular ejection fraction (LVEF) at rest was also calculated. Results: There were 300 DM pts (61% men) and 168 Ctrls (54% men, $P=0.143$). Mean ages were 60.2 and 56.8 respectively ($P<0.001$). Hypertension, hyperlipidemia, active smoking and family history of CAD were present in DM and Ctrls in 72% vs. 67% ($P=0.294$), 58% vs. 67% ($P=0.069$), 81% vs. 71% ($P=0.03$) and 31% vs. 47% ($P=0.001$) respectively. Statins, beta-blockers, ACEI, and aspirin were used similarly in both groups. By EX ECG, ischemia was present in 15% of DM and 12% of Ctrls ($P=NS$). The EX time was 8.2 min in DM and 9.4 min in Ctrls ($P=0.001$). SSS, SDS and SRS scores >3 were more commonly found in DM than in Ctrls, 24% vs. 13% ($P=0.007$), 20% vs. 11% ($P=0.018$) and 6% vs. 2% ($P=0.094$). The mean rest LVEF was 66.5% in DM and 70.4% in Ctrls ($P=0.001$). Regional geographical variations in prevalence of ischemic pattern was observed, however the difference disappeared when countries were grouped by continents: 26% in Africa, 19% in Asia and 19% in Latin America ($P=0.362$). Conclusions: This first international study performed in 13 low-middle income countries shows that in this particular economic setting, AIHD is more prevalent in DM patients compared to non-diabetics with other

vascular risk factors, and that MPI detects ischemia in a larger proportion of DM pts than EX ECG. Ongoing research will focus on serial changes in MPI and on relation of the findings to clinical outcome.

INMUNOLOGÍA

XXII WORLD ALLERGY CONGRESS – CANCUN, MEXICO

DESCRIPTION OF DRUG ALLERGY STUDY CONDUCTED IN A TEACHING HOSPITAL BETWEEN OCTOBER 2007 AND MARCH 2011

Consuelo Fernanda Rodríguez Martínez y Alicia Sciaraffia Rubio

Background: The World Allergy Organization (WAO) in 2003 defined 'drug allergy' as an immunologically mediated drug hypersensitivity reaction. The mechanism of drug allergy may be either IgE or non-IgE mediated. The true incidence of drug allergy is not known. There are only few studies/datasets using standardized clinical questionnaires and validated in vivo or in vitro tests to confirm the diagnosis of drug allergy. Here we have analyzed the obtained results of in vivo test in suspected drug allergy patients. Methods: Data from the Centre of Allergies of the Clinical Hospital of the Universidad de Chile between the months of October 2007 and March 2011 was obtained. The information of the protocols of drug executed, by defining as Protocol the study of a probable allergy by 2 or more procedures, which can be: Prick Test, intradermal reaction, specific IgE and/or Test Patch. Results: For a total of 126 drug protocols, 25% of them were trivirica vaccine, 24% -lactams, 21% local anaesthetics and 10% to general anesthesia (inductors, muscle relaxants and Latex). Of the total of patients undergoing protocols the most of them were women, there is no clear difference between the number of children and adults. The temporal distribution of protocols was stable between the months of October 2007 and March 2009 (15 protocols/semester), to then become variable, reaching values between 10 and 29 every 6 months. Of total protocols 30.1% was positive, only one patient presented a mild adverse reaction (local welt). The -lactams being most often positive drugs. Protocols involving pethidine 100% was positive, diclofenac 33%, dipyrone, ketoprofen and hydrocortisone each one 25%. The most accomplished protocol was trivirica vaccine, resulting in 100% negative. Of all negative protocols 58% went to provocation, resulting in a 8% positive, including one provocation to the trivirica vaccine. Conclusions: Methodological study is very important for a possible drug allergy, because history is not enough to certify the diagnosis. To do a provocation test to a negative protocol is crucial.

ATOPY PATCH TEST TO AEROALLERGENS EXTRACTS IS USEFUL IN ALLERGIC DISEASES DIAGNOSIS WHEN SKIN PRICK TEST IS NEGATIVE

Rocio Tordecilla, Maria Angelica Marinovic.

Background: The atopic diseases are generally diagnosed by performing skin prick tests (SPTs) to different aeroallergens. However, when this study results negative, it is possible to perform atopy patch test (APT). This technique has been introduced to evaluate sensitization to aeroallergens in patients with atopic eczema dermatitis syndrome. Nevertheless, its role in other allergic diseases has not been proved. Objective: Evaluate aeroallergens response using skin prick test (SPT) and atopy patch test (APT) in patients with allergic diseases. Methods: Retrospective cohort study of individuals who performed SPT and APT as part of allergic diseases study. The study subjects were patch and skin prick tested to house dust mite (Dermatophagoides), trees, grass and fungi mix, cat and dog dander, among others. The tests were performed at the respiratory allergic disease center of Santa Maria Clinic in Santiago, Chile, between January 2010 and April 2011. Results: Fifty-five patients were included, 18 (33%) males and 37 (67%) females, median age 6 years (range from 3 months to 62 years), with the following diagnosis: atopic dermatitis syndrome (60%), allergic rhinitis (58%), contact allergic dermatitis (16%), asthma (9%), recurrent bronchial obstructive syndrome (7%), allergic rhinoconjunctivitis (4%), chronic cough (4%), recurrent acute otitis media (2%) and recurrent laryngitis (2%). They underwent usual SPTs and APTs with multiple aeroallergens extracts. Of the 55 patients, 22 showed a positive SPT and 32 a positive APT; in 14 (25%) both, SPT and APT were positive. In 8 (15%) the SPT was positive and APT negative, while in 18 (33%) the SPT was negative, but the APT positive. Fifteen (27%) were negative to both tests. Conclusions: Our results show that APT might be a useful diagnosis test in patients with allergic diseases and that its routine use can improve their diagnosis.

CASE REPORT: HYPOGAMMAGLOBULINEMIA INDUCED BY OXCARBAZEPINE

Maria Angelica Marinovic, Rosario Rojas

Background: case report. Methods: case report. Results: case report. Conclusions: A 6 years old girl with history of motor learning disability of unknown cause in treatment with Oxcarbazepine since December 2008 for epilepsy. No previous infection history, on July 2009 presents a septic shock secondary to Haemophilus influenzae pneumonia. During hospitalization blood exams reveal; low IgG (356mg/dl) with normal IgA/IgM levels. T cell populations in normal range LTCD3: 74.9% (2476 cells/mm³), LTCD4: 47% (1562 cells/mm³), LTCD8: 28% (930 cells/mm³), CD56: 22.9% (758 cells/mm³) and B cell number frankly diminished CD19: 1.1% (38 cells/mm³ (normal values range 200-1600 cells/mm³)). IVIG treatment was indicated. The diagnosis of common variable immunodeficiency (CVID) induced by Oxcarbazepine was proposed. According to literature reports this cases should be controlled by immunoglobulin monthly quantification, and they recover between 3-9 months after drug suspension. After IGIV therapy immunoglobulin quantification show: IgG 1041mg/dl, IgA 78mg/dl, IgM 103mg/dl, with frankly IgG elevation. A second control after 2 months IGIV infusion shows IgG 834mg/dl, IgA 54mg/dl, IgM 75mg/dl. The patient remains in good health with no infections after drug suspension. Her IgG levels and B cell (CD19) number returned to normal after three months (10.7% (271cells/mm³)). Posterior IgG controls are in normal range which shows a resolution of hypogammaglobulinemia.

DEPARTAMENTO DE NEUROLOGÍA Y NEUROCIROGÍA

8th WORLD CONGRESS OF IBRO (INTERNATIONAL BRAIN RESEARCH OF NEUROSCIENCE) – FLORENCIA, ITALIA

WOMEN INCREASE THEIR PERFORMANCE TRAINED WITH DECREASING REWARD CONDITIONS ON A CONCEPTUAL LEARNING TASK.

C. Delgado, P.H. Délano, C. Alegría, C. Bahamondes, C. Cortés & M.L. Aylwin

The increasing effect of reinforcement in task learning is variable across subjects. We studied the role of 2 types of reinforcement on conceptual learning. Sixty (29 female) medical students (18-20 years), participated on a feedback-based learning task (eight blocks, 40 trials each). The subjects had to predict a binary outcome using 8 different patterns, deterministically associated with the outcome, and an immediate correct/incorrect feedback was presented (Kumaran et al. 2007). The expected performance was $\geq 70\%$ in the first 3 blocks, $\geq 80\%$ in blocks 4-6 and $\geq 90\%$ in blocks 7-8. Subjects were randomly assigned to two types of monetary reward protocols: (1) a progressive increase (R+) if the expected block performance was obtained and (2) a progressive decrease (R-) if the expected block performance was not obtained. Average performance significantly increased with training, from 52.3 ± 9.0 in the first block to 87.5 ± 15.0 at the 8th block ($F=101$, $p < 0.001$). Performance was normally distributed up to the 4th block (mean \pm SD= 68.5 ± 15.5) and exhibited a progressive ceiling effect in the subsequent blocks, thus we did the analysis for the first 4 blocks. Overall, men (70.5 ± 15.5) performed better than women (66.0 ± 15.0) in the test ($f=4.5$, $p=0.04$) without sex/ block interaction. In addition, performance was increased with R- (73.0 ± 16.0) compared to the R+ (64.0 ± 13.0), with significant interaction between reinforcement type and blocks ($F=6.7$, $p=0.012$). A separate analysis for sex and type of reinforcement indicated that women and men with R- had similar performances, while women trained with R+ performed poorer than men and than women with R-. We conclude that in this conceptual task women are more sensitive to the reinforcement type than men, exhibiting an increase in their performance and learning speed with decreasing reinforcement.

10th BIENNIAL ISRS CONGRESS (INTERNATIONAL STEREOTACTIC RADIOSURGERY SOCIETY) – PARIS, FRANCIA

IMPLEMENTATION OF THE FIRST LINAC RADIOSURGICAL FACILITY IN A PUBLIC HOSPITAL RADIOTHERAPY DEPARTMENT IN CHILE. HOW WE DO IT.

Gustavo Zomosa, Ariel Fariup, Gustavo Piris, Martin Mondaca.

In 2009 as a consequence of the purchase of three new lineal accerators for the department of radioteraphy of the National Cancer Institute (Instituto Nacional del Cancer), public hospital in Chile, South America, the implementation of a LINAC Radiosurgical facility was performed. It consisted in a Varian Linear Accerator system with the Fast Plan planifi

cation system, which enables to use, depending on the target, a cones collimators based system or the multi-leaf (IMSRS) with the Eclipse system . We can use a frame invasive position system (ISPS) or frameless with an optic navigation system for irradiation control. Before the implementation of this facility the patients were treated in private clinics or abroad when it was possible, so that now this service is available for public patients from all regions of the country. The process of implementation was rather difficult in a public hospital with a large number of patients who needed conventional radiotherapy and included changes in the way of working as a team: neurosurgeon, radiation oncologist, medical physicists and medical technician with the development of new protocols and strategies and in particular very strict quality controls that are needed for SRS. Finally after solving these problems and unexpected events that included an earthquake, the first patient was successfully treated this year and showed us the right way to be successful in this difficult field and moved us to report this goal.

4th INTERNATIONAL CONGRESS OF MYOLOGY – LILLE, FRANCIA

LAMINOPATHIES IN CHILE, THE FIRST CASES REPORTED SHOW TWO NOVEL LMNA VARIANTS.

Jorge A. Bevilacqua, Karin Kleinsteuber, Rabah Ben Yaou, María de los Angeles Avaria, Ana Ferreira, Laurence Demay, Andrés Chain, Pascale Richard, J. Andoni Urtizberea, Gisèle Bonne.

Several different human diseases have been linked to mutations in the gene encoding lamin A/C (LMNA). Mutations in LMNA were first associated to autosomal forms of Emery-Dreifuss muscular dystrophy (EDMD), a rare slowly progressive humero-peroneal muscular dystrophy accompanied by early contractures and dilated cardiomyopathy with conduction defects. Since then LMNA mutations have been reported in several distinct phenotypes that affect skeletal and/or cardiac muscle, adipose tissue, peripheral nerve, bone, premature ageing or variable combination of these phenotypes. So far more than 350 different LMNA mutations have been identified in over 1700 subjects. The aim of our report is to communicate the first identified cases of laminopathy in Chile, two of which carry novel mutations. The first three cases presented in early childhood, with mild creatine kinase (CK) increase and delayed motor milestones. Electrophysiological assessment showed normal nerve conduction velocity with myopathic changes. Muscle histopathological studies showed unspecific dystrophic findings with normal immunostaining for dystrophin, merosine and other membrane proteins. Case 1 is a girl carrying a new de novo LMNA p.V442G mutation, manifesting as a myopathy during the first year of life, with neck and limb girdle muscle weakness of a scapulo-peroneal distribution. At 3 years of age, she presented increased motor difficulties; rigid spine syndrome and multiple limb retractions, pectus carinatum and mild restrictive respiratory involvement. Case 2 is a girl that presented with a humero-peroneal myopathy beginning with lower limb weakness after 18 months of age. At the age of 8, she showed mild restrictive respiratory involvement, ventricular arrhythmia for which underwent a cardiac surgery to place a defibrillator. She and her mildly affected mother presented the LMNA p.Y259N mutation. Case 3 presented with a floppy infant syndrome, delayed motor milestones and pelvic girdle weakness since infancy. At the age of 20, he presents a typical Emery-Dreifuss syndrome associated with rigid spine as well as supraventricular arrhythmia. Molecular analysis showed a new de novo LMNA p.L245P mutation. Case 4 is a 41 years old woman that was followed due to a dilated cardiomyopathy. She presented with progressive lower limb weakness associated with lipodystrophy. She carries the LMNA p.R541C mutation, which has never been reported associated before with features of lipodystrophy.

APPLICATION OF THE MOTOR FUNCTION MEASURE (MFM) SCALE IN DYSFERLINOPATHY: PRELIMINARY RESULTS.

Jorge A. Bevilacqua, Ivonne Zamorano Valdebenito, Ricardo Urzúa, Ricardo Hughes.

The Motor Function Measure (MFM) scale has been designed for the assessment of motor function and monitoring weakness in neuromuscular disorders. It is applicable to patients with neuromuscular diseases of all types with variable severity of impairment. Although it has been validated in LGMD as a group, patients affected by dysferlinopathy (LGMD2B MIM#253601, Miyoshi myopathy MIM#254130) have not been assessed individually as a group. We applied the MFM scale to a group of nine patients with confirmed diagnosis of dysferlinopathy.

Table 1. Summary of the MFM score in patients with dysferlinopathy according to disease duration.

Patient N°	P1/30/F	P2/21/M	P3/25/M	P4/30/F	P5/27/M	P6/27/F	P7/35/M	P8/43/F	P9/43/M
Age Gender									
Disease									
Duration yr	3	5	6	6	7	8	12	13	24
D1	92,3%	56,4%	5,1%	49%	71,8%	17,9%	2,7%	15,4%	5,1%
D2	100%	88,8%	75%	97,2%	100%	80,1%	66,7%	91,7%	86,1%
D3	100%	95,2%	95%	95,2%	100%	95,2%	95,2%	85,7%	90%
Total MFM	96,7%	77,1%	51%	77,8%	89%	57,3%	53,1%	59,4%	54,1%

Four women and five men were assessed once with the MFM-32. Clinical phenotype was consistent with MM 6 patients, but patients 1, 8 and 9 showed a proximo-distal (PD) phenotype. Age of the patients ranged from 21 to 43 years; disease duration from initial symptoms was between 3 and 24 years (Table 1). All patients scored less in standing and transfers (dimension 1, D1); axial and proximal motor capabilities (D2) were less affected and distal motor assessment (D3) was only mildly affected. As a main tendency, total MFM score decreased proportional to disease duration however significant inter-individual variation was observed according to disease severity. Total MFM score did not fall down 50% in any case, even after 24 years of disease, but this level could be reached as early as after 6 years of disease course. Our data suggest that the MFM scale is a useful tool to measure the deficit in this subset of patients. In addition these preliminary results suggest that scoring pattern of all the patients is consistent, despite the initial clinical phenotype presented. Further periodical assessment of the patients will allow demonstrating the use of the scale in monitoring disease progression or response to therapeutic interventions.

DEPARTAMENTO DE OBSTETRICIA Y GINECOLOGÍA

44th ANNUAL MEETING OF SSR (SOCIETY FOR THE STUDY OF REPRODUCTION) - PORTLAND, OREGON, USA

THE CHAPERONE PROTEIN CALRETICULIN IS EXPRESSED IN HUMAN.

Ovarian Tissues, Carmen Romero, Carolina Vera, Fernando Gabler, Arturo Ferreira, Alberto Selman, Margarita Vega.

The immunogenic death involves changes in the composition of the cell surface, as well as, the release of soluble immunogenic signals that occur in a defined temporal sequence. Although apoptosis appears to be morphologically homogeneous, recent evidence suggests that the pre-apoptotic surface exposure of calreticulin (CRT) may have a profound impact on the immune response. It has become clear that CRT is a multicompartamental protein that regulates a wide array of cellular responses important in physiological and pathological processes, such as wound healing, the immune response, fibrosis, and cancer. The pre-apoptotic translocation of intracellular CRT (endo-CRT) to the plasma membrane (ecto-CRT) is critical for the recognition and engulfment of dying tumor cells by dendritic cells. Ecto-CRT exposure by tumor cells allows for the prediction of therapeutic outcome because the re-establishment of ecto-CRT may improve the efficacy of chemotherapy. Proteomic analyses of anthracycline-treated tumor cells have recently revealed the critical involvement of CRT in mediating the immunogenicity of dying tumor cells. There is a poor evidence of CRT expression in human ovary and ovarian cancer. Our aim was to conduct a descriptive study to examine the CRT expression in human ovarian tissues. Different groups of human ovarian samples were used: normal ovaries, benign tumors, borderline tumors and epithelial ovarian cancer (n = 6 per condition). These specimens were obtained from Gynecology and Pathology Services of the Clinical Hospital, University of Chile with Institutional Ethics Committee approval. To evaluate the localization of CRT in all specimens studied we used immunohistochemistry. To examine the CRT mRNA and protein levels, RT-PCR and Western Blot were respectively performed. The results showed that the localization of CRT in ovarian tissues was detected mainly in the cytoplasm of epithelial cells in normal ovaries, tumors ovarian tissues and epithelial ovarian cancer. On the other hand, interestingly we found that CRT

mRNA levels were two times higher ($p,0.05$) in epithelial ovarian cancer samples compared with either normal ovarian tissues or ovarian tumors tissues. CRT protein levels obtained by western blot follow the same mRNA levels profile, being epithelial ovarian cancer CRT protein levels 1.46 times higher than the other ovarian samples analyzed; nevertheless, this increase has not reach statistical significance. These preliminary results suggest the participation of CRT in the transformation from the normal ovarian epithelium to the pathological one. It will be important to describe the CRT sub cellular localization in these samples in order to support the role of this chaperone on the immune response.

EXPRESSION IS INCREASED IN EPITHELIAL OVARIAN CARCINOMA.

Veronica M. Tapia, Nahum Amtmann, Fernando Gabler, Alberto Selman, Margarita Vega, Carmen Romero.

In most countries, ovarian cancer is the most common cause of death from gynecologic malignancies. The high mortality is predominantly due to occult progression of the tumor in the peritoneal cavity, with the initial diagnosis usually being made at an advanced stage. Several mechanisms may explain the etiology of ovarian cancer and many studies try to explain the progression of epithelial ovarian carcinoma, however, it has not been fully established the biological role of shedding processing of some growth factors or their receptors in this pathology. ADAM17 is a member of the metalloprotease-disintegrin family of membraneanchored glycoproteins, is up-regulated in a variety of tumors and contributes to tumorigenesis. In fact, ADAM17 is implicated in carcinogenesis because the enzyme sheds growth factors necessary for tumor progression and growth, and also contributes to inflammation often observed in tumors. An elevated expression of ADAM17 is usually correlated with poor disease progression. Thus, in recent years, there has been a growing interest in ADAM17 as a new therapeutic target in several tumor types. To evaluate ADAM17 localization and protein levels in epithelial ovarian cancer by immunohistochemistry, six different groups of ovarian samples were used: normal ovaries, benign, borderline and epithelial ovarian cancer (well differentiated: grade I; moderated differentiated: grade II and poorly differentiated: grade III). These specimens were obtained from ovarian tissues embedded in paraffin ($n = 10$ per condition) derived from the Pathology Services of the Clinical Hospital of the University of Chile, following institutional ethics committee regulations. Also, we evaluated ADAM17 mRNA and protein levels in HOSE (human ovarian surface epithelial cell line) and A2780 (ovarian cancer epithelial cell line). Our results showed that the localization of ADAM17 protein was detected mainly in the cytoplasm of epithelial cells, since the antibody was able to detect both precursor and mature protein as well. The semi-quantitative analysis of ADAM17 protein in epithelial cells from all studied samples was significantly higher for ovarian carcinomas (EOC I; EOC II and EOC III) versus normal ovary ($p,0.05$). On the other hand, the results in cell lines showed that ADAM17 Mrna level was 1.5 times higher in the ovarian cancer cell line A2780 compared with HOSE. A similar pattern was found when immunodetection of ADAM17 was assayed using immunocytochemistry, in which ADAM17 protein level was higher in A2780 cell line, showing a granular staining cytoplasm-positive immunoreaction for ADAM17. These results allow us to speculate that the shedding process could be a key step in ovarian carcinoma progression.

DEPARTAMENTO DE OTORRRINOLARINGOLOGÍA

8th WORLD CONGRESS OF IBRO (INTERNATIONAL BRAIN RESEARCH OF NEUROSCIENCE) – FLORENCIA, ITALIA

AUDITORY CORTEX TONIC ACTIVITY MODULATES COCHLEAR RESPONSES IN CHINCHILLAS.

A. Leon, D. Elgueda, M.A. Silva, C.M. Hamame & P.H. Delano

Auditory-cortex descending projections emerge from pyramidal neurons which somas are located in cortical layer V and VI. These neurons project to the inferior colliculus and also to the superior olivary complex. Medial olivocochlear neurons innervate outer hair cells in the cochlear receptor. The functional role of this efferent system remains unclear. We hypothesized that activity in the auditory-cortex regulates cochlear afferent responses through the efferent system. We used two different methods to deactivate the left auditory cortex of 15 anesthetized chinchillas: (i) lidocaine cortical microinjections ($3 \mu\text{l}$ at $1 \mu\text{l}/\text{min}$ rate) ($n=10$) and (ii), cooling ($2-8 \text{ }^\circ\text{C}$) of the auditory cortex by cold methanol using cryoloops ($n=5$). We recorded cochlear microphonics potentials (CM) and the compound action potential of the auditory nerve (CAP) from an electrode positioned at the right round window. Middle-ear muscles were sectioned in all chinchillas. We found that cortical deactivation produced significant changes in the amplitude of CM in all chinchillas with both methods. Amplitude changes of CAP and CM

were variable with lidocaine microinjections, while we only found reductions with cryoloops. Maximum CM and CAP decreases with lidocaine were -3.4 ± 2.0 dB (mean \pm SD) and -4.3 ± 2.5 dB, while mean values for CM and CAP increases for the same deactivation method were 2.7 ± 0.6 dB and 4.5 ± 0.8 . Averages for CM and CAP reductions with cryoloops were -2.7 ± 1.1 dB and -5.0 ± 2.4 dB, respectively. Sixty minutes after lidocaine microinjection or cooling of the auditory cortex, amplitudes of cortical potentials were completely recovered, however only partial recovery was observed in cochlear responses. These results demonstrate modulation of cochlear responses by the cerebral cortex. The diversity of effects suggests that there are several (at least two) functional pathways from cortex to cochlea.

DEPARTAMENTO DE PSIQUIATRÍA Y SALUD MENTAL

15th WORLD CONGRESS OF PSYCHIATRY - BUENOS AIRES, ARGENTINA

ASSOCIATION BETWEEN NEUROCOGNITIVE PARAMETERS, BRAIN PERFUSION ABNORMALITIES AND COCAINE CONSUMPTION IN RECENTLY ABSTINENT DEPENDENTS.

Pallavicini J, Massardo T, Jaimovich R, Quintana JC, Servat M, Ibáñez C, Veliz J, Castro G, Pizarro P, Pereira J.

Nuclear Medicine and Psychiatry, University of Chile Clinical Hospital. Radiology and Hematology-Oncology, Pontificia Universidad Católica de Chile. Several cognitive problems are frequently observed in cocaine consumers. We evaluated the association of neurocognitive and cortical perfusion abnormalities with cocaine consumption in 21 patients who fulfilled DSM-IV criteria for cocaine dependence during early deprivation. The group age was 31 ± 7 years old; 86% males, with a mean of 13 ± 2 years of education. Cocaine or derivative was consumed as main dependence substance with a mean of 7 ± 4 years and estimated dose of 2.0 ± 1.6 g/d. Patients were studied with a basal brain SPECT using ^{99m}Tc -ECD and with Wisconsin Card Sorting Test (WCST) applied initially and controlled 4 weeks later, in order to assess tasks performance. At admission for detoxification therapy all tested positive for urinary cocaine metabolites; they were maintained in strict drug abstinence, but smoking. WCST demonstrated persistence in the number of perseverative answers or errors, non-perseverative errors or reached categories ($p = \text{ns}$, in all parameters). All SPECT presented some degree of brain hypoperfusion (considering normal activity over 66% of the maximal in cortex). There were positive association between cocaine consumption -expressed as estimated dose times years- with: a) prefrontal hypoperfusion [$r: 0.556$ ($p = 0.008$)] and b) with initial perseverative answers [$r: 0.47$ ($p = 0.029$)] but not after a month of abstinence. In conclusion, cocaine dependent patients presented a clear association between consumption with prefrontal brain hypoperfusion as well as with perseveration.

WOMEN INCREASE THEIR PERFORMANCE TRAINED WITH DECREASING REWARD CONDITIONS ON A CONCEPTUAL LEARNING TASK.

C. Delgado, P.H. Délano, C. Alegría, C. Bahamondes, C. Cortés, M.L. Aylwin

The increasing effect of reinforcement in task learning is variable across subjects. We studied the role of 2 types of reinforcement on conceptual learning. Sixty (29 female) medical students (18-20 years), participated on a feedback-based learning task (eight blocks, 40 trials each). The subjects had to predict a binary outcome using 8 different patterns, deterministically associated with the outcome, and an immediate correct/incorrect feedback was presented (Kumaran et al. 2007). The expected performance was $\geq 70\%$ in the first 3 blocks, $\geq 80\%$ in blocks 4-6 and $\geq 90\%$ in blocks 7-8. Subjects were randomly assigned to two types of monetary reward protocols: (1) a progressive increase (R+) if the expected block performance was obtained and (2) a progressive decrease (R-) if the expected block performance was not obtained. Average performance significantly increased with training, from 52.3 ± 9.0 in the first block to 87.5 ± 15.0 at the 8th block ($F = 101$, $p < 0.001$). Performance was normally distributed up to the 4th block (mean \pm SD = 68.5 ± 15.5) and exhibited a progressive ceiling effect in the subsequent blocks, thus we did the analysis for the first 4 blocks. Overall, men (70.5 ± 15.5) performed better than women (66.0 ± 15.0) in the test ($f = 4.5$, $p = 0.04$) without sex/ block interaction. In addition, performance was increased with R- (73.0 ± 16.0) compared to the R+ (64.0 ± 13.0), with significant interaction between reinforcement type and blocks ($F = 6.7$, $p = 0.012$). A separate analysis for sex and type of reinforcement indicated that women and men with R- had similar performances, while women trained with R+ performed poorer than men and than women with R-. We conclude that in this

conceptual task women are more sensitive to the reinforcement type than men, exhibiting an increase in their performance and learning speed with decreasing reinforcement.

MOLECULAR GENETIC ANALYSES OF SCHIZOPHRENIA IN SOUTH AMERICA

Aida Ruiz, Robin Murray, John Powell, Eduardo Miranda, Pak Sham

Background: In the past decades, tremendous efforts have been invested in finding genetic causes of schizophrenia. Earlier schizophrenia genetic studies were mainly focused on genome-wide linkage studies (GWLS), and candidate region or candidate gene association studies. More recent studies have used modern high-throughput genomic technologies on large patient samples, for example genome-wide association studies (GWAS), copy number variations (CNV) and large-scale candidate gene re-sequencing studies. These studies have been mainly carried out in populations of European origin. The main objective of this study was to review molecular genetic analyses of schizophrenia in South American samples, which are the result of admixture between people of European, Native American or African ancestries. **Methods:** A search for molecular genetic studies of schizophrenia in South American samples was carried out using Medline. Articles published during the last decade, and available reports presented in conferences were included. Study design, sample size, statistical power calculation, molecular analysis of population structure, and analysis of intermediate phenotypes (cognitive, neurophysiological, and imaging) were the main aspects evaluated. Descriptive statistical analysis was performed using SPSS statistical software. **Results:** Reports on molecular genetic association studies of potential candidate genes in samples from Brazil, Chile, and Colombia were found, using both case-control and family designs. Most candidate genes studied in these populations did not show significant association with schizophrenia, with the exception of the Capon gene in a Colombian sample, and Notch, iPLA2 and NRG1 genes in Brazilian analyses. None of the reports analysed association with intermediate phenotypes. Regarding statistical analysis, most studies did not perform statistical power calculation, and did not consider molecular analysis of population stratification. Studies using more recent approaches, such as GWAS, CNV, and large-scale candidate gene resequencing, were not found in this review. **Discussion:** Some associations with candidate genes were described in some South American populations. These results could be biased due to some methodological limitations, such as insufficient sample size to detect small effect size genes and the lack of population stratification control. It has been described that in admixed South American populations, the relative contributions of the three ancestral continental groups can vary substantially between sub-groups (e.g. between Brazilians and Chileans) and also among individuals within the same sub-group. This heterogeneity is a problem both for evolutionary studies and for genetic association studies in South American populations, unless genetic ancestry can be measured. Low levels of genetic diversity and high levels of linkage disequilibrium in the Native American derived DNA sequences have been observed, consistent with a recent, severe population bottleneck associated with the initial peopling of the Americas. Admixed South American populations could present a different pattern of linkage disequilibrium from other populations, offering advantages in the fine mapping of risk loci for complex disorders, using the most recent molecular sequencing technologies.

DEPARTAMENTO DE TRAUMATOLOGÍA

2011 ISAKOS CONGRESS - RIO DE JANEIRO, BRASIL

THE EFFECT OF TUNNEL PLACEMENT ON ROTATIONAL STABILITY AFTER ACL RECONSTRUCTION: EVALUATION WITH USE OF TRIAXIAL ACCELEROMETRY IN A PORCINE MODEL.

Aníbal Debandi, Akira Maeyama, Shigehiro Asai, Bunsei Goto, Patrick J Smolinski, Freddie H. Fu.

Introduction: The transtibial technique for anterior cruciate ligament (ACL) reconstruction has been popular for over two decades, however, this technique commonly results in the graft being placed close to the tibial insertion site of the posterolateral (PL) bundle, and a higher position in the notch related to the femoral insertion site of the anteromedial (AM) bundle (1). Nonanatomic tunnel placement may alter the biomechanical properties of the ACL-reconstructed knee. The purpose of this study was to evaluate the effect of anatomic versus nonanatomic tunnel placement on rotational knee stability after single-bundle (SB) ACL reconstruction with the use of triaxial accelerometry. **Material and Methods:** Sixteen fresh-frozen mature porcine knees were used in this study. A triaxial accelerometer (Kistler, Winterthur, Switzerland) measured

the three-dimensional acceleration of joint motion during the dislocation phase of the pivot-shift phenomenon (applying manual pivot shift test) for the ACL-intact, ACL-deficient and ACL-reconstructed knee. The sensor was attached on the tibial tuberosity by a bone screw. The reliability, accuracy, and reproducibility of evaluation of instability with accelerometry has been demonstrated in previous studies (2,3,4). The ACL reconstructions were performed arthroscopically in a randomized order using human hamstring grafts. Two ACL reconstruction groups were studied. For anatomic ACL reconstruction (Anatomic group), the tibial and femoral tunnels were placed in the center of ACL insertion sites. For nonanatomic ACL reconstruction (Nonanatomic group), the tunnels were placed from the tibial PL bundle insertion site to a higher position than the femoral AM bundle footprint. Results: The ACL-intact knee ($1.99 \pm 0.59 \text{ m/s}^2$) showed an overall magnitude of acceleration significantly smaller than the Nonanatomic group ($3.92 \pm 0.67 \text{ m/s}^2$, $P < 0.05$). The overall magnitude of acceleration of the Anatomic group ($1.05 \pm 0.17 \text{ m/s}^2$) was significantly smaller than the ACL-intact knee ($P < 0.05$). The Anatomic group had significantly smaller overall magnitude of acceleration compared to the Nonanatomic group ($P < 0.05$). Discussion: In this study, the dynamic behavior of the knee in a porcine model after anatomic and nonanatomic SB ACL reconstruction was evaluated using a triaxial accelerometer during the dislocation phase of the pivot shift phenomenon. The results showed that the anatomic SB ACL reconstruction more closely restored the dynamic rotational stability of the intact knee than the nonanatomic SB reconstruction.

A COMPARISON OF INITIAL GRAFT TENSION ON ROTATIONAL KNEE STABILITY BETWEEN ANATOMIC AND NON-ANATOMIC ACL RECONSTRUCTIONS.

Akira Maeyama, Anibal Debandi, Yuichi Hoshino, Kazuhiko Saeki, Chad Hume, Shigehiro Asai, Bunsei Goto, Patrick J Smolinski, Freddie H. Fu.

Introduction: Successful anterior cruciate ligament (ACL) reconstruction depends on several factors including the type and source of graft, tunnel position, fixation flexion angle at the time of fixation, the amount of tibial internal rotation during graft tensioning, the method of graft fixation, and the fixation graft tension at the time of fixation. Cadaver and clinical studies for graft tensioning and the angle at time of fixation vary. In general, they are based on applying an initial graft tension to restore normal anterior-posterior laxity to the knee. To our knowledge, there are no studies comparing the effects of initial graft tension at the time of fixation on rotational knee stability between anatomic and non-anatomic ACL reconstructions using a triaxial acceleration. Materials and Methods: Twelve fresh-frozen human cadaveric knees were used in this study. A triaxial accelerometer (Kistler, Winterthur, Switzerland), capable of measuring three-dimensional acceleration of joint motion, was used to evaluate triaxial acceleration of the pivot-shift phenomenon (applying manual pivot shift test by a blinded examiner) for the ACL-intact, ACL-deficient, and ACL-reconstructed knee. For this, the sensor was attached on the tibial tuberosity by a bone screw. The reliability, accuracy, and reproducibility of evaluation of instability with accelerometry has been demonstrated in previous hip studies. A robotic manipulator (CASPAR Stäubli RX90 robot, Orto MAQUET, Germany) was used for fixing the graft at selected knee flexion angles. The ACL reconstructions were performed arthroscopically in a randomized order, using quadruple hamstring allograft. Four ACL reconstruction groups were studied. For anatomic ACL reconstruction, the tunnels were placed in the center of ACL insertion sites through the accessory medial portal, and the initial tension for graft fixation was 40 N (Anatomic-40 N group) and 80 N (Anatomic-80 N group). For nonanatomic ACL reconstruction, mimicking the transtibial technique, the tunnels were placed from the tibial posterolateral bundle insertion site to a higher position than the femoral anteromedial bundle footprint, and the initial tension for graft fixation was 40 N (Nonanatomic-40 N group) and 80 N (Nonanatomic-80 N group). All fixation was at 30° of flexion. Results: The overall magnitude of the acceleration was largest in the ACL-deficient knee ($1.64 \pm 0.23 \text{ m/s}^2$) and smallest in the ACL-intact knee ($0.75 \pm 0.13 \text{ m/s}^2$). Among the ACL-reconstructed groups, the Anatomic-80 N group had the smallest overall magnitude of the acceleration ($0.98 \pm 0.09 \text{ m/s}^2$). Other reconstruction groups had $1.1 \pm 0.27 \text{ m/s}^2$ (Anatomic-40N group), $1.61 \pm 0.27 \text{ m/s}^2$ (Non-Anatomic 40N group) and $1.35 \pm 1.17 \text{ m/s}^2$ (Non-Anatomic 80 N group). Discussion: The Anatomic-80 N group more closely restored the dynamic rotational stability of the intact knee. From result, anatomical reconstruction and 80 N fixation better restored the rotational stability for ACL reconstruction.

TUNNEL POSITIONING IN ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION: A RADIOGRAPHIC STUDY COMPARING TRANSTIBIAL TECHNIQUE USING HOWELL GUIDE AND TIBIAL TUNNEL INDEPENDENT TECHNIQUE.

Alejandro Viacava, Anibal Debandi.

Objective: To compare radiographic results of two single bundle anterior cruciate ligament reconstruction (ACL) techniques: transtibial technique using Howell tibial guide and tunnel independent drilling technique. **Methods:** 48 patients who underwent single bundle ACL reconstruction using autologous hamstring tendon graft were retrospectively evaluated. In Group 1 (N: 28), a Howell tibial guide to drill the tibial tunnel and a transtibial approach for femoral tunnel were used. In Group 2 (N:20), the femoral and tibial tunnel were placed in the center of the measured femoral and tibial insertion footprints. The femoral tunnel was drilled by using an accessory anteromedial portal. The resulting bone tunnel position was assessed in anteroposterior, lateral and tunnel view knee X-rays. In the frontal plane, the lateral angle between the femoral tunnel axis and a line tangential to the femoral condyles and the medial angle between the tibial tunnel axis and a line tangential to the tibial plateau were measured. In lateral projection, tunnel position was evaluated using Stäubli's criterion for the tibia and Bernard method for the femur. **Results:** In Group 1, in the frontal plane, the center of the tibial tunnel had a median angle of 62 degrees and in the sagittal plane it intersected the tibial plateau at 43% of its length. In Group 2, in the frontal plane, the center of the tibial tunnel had a median angle of 64 degrees and in the sagittal plane it intersected the tibial plateau at 40% of its length. The angle of the femoral tunnel in the frontal plane was significantly greater in Group 1 (56° versus 36°, P=0,0001). The position of the femoral tunnel, in relation to Blumensaat line in the sagittal plane, was shallower in Group 2 (31% versus 24%, P=0,009). The entrance of the femoral tunnel in the medial wall of the lateral femoral condyle could not be evaluated in the knee X-rays used in this study. **Conclusion:** ACL reconstruction using transtibial technique with Howell tibial guide locates tibial tunnel in the ACL tibial footprint, in a posterior position compared to tunnel independent technique, although without significant statistical difference. The femoral's tunnel more vertical orientation in the frontal plane and deeper positioning in the sagittal plane using transtibial technique suggest a less anatomical position compared to the one occurring in tunnel independent drilling technique. Moreover, based on our results, the regular knee radiologic study presents limitations in order to define how anatomical an ACL reconstruction is.

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MASSIVE GRADE IB CHONDROBLASTOMA OF THE TALUS COMPLETE EN-BLOC TALECTOMY AND RECONSTRUCTION WITH TIBIO-CALCANEAL ARTHRODESIS: LONG- TERM FOLLOW UP OF A CASE

Luis Bahamonde

INTRODUCTION: Chondroblastomas arising at the talus are rare, more so with cortical disruption and a soft tissue mass. In such cases, wide resection is the treatment of choice, which can compromise the options for reconstruction and limb-sparing surgery. We present a case of a huge grade IB chondroblastoma of the talus, according to Enneking's classification, in which a complete en-bloc talectomy was performed. Reconstruction was done with a tibio-calcaneal arthrodesis. **OBJECTIVE:** To present the functional results at long-term follow up of a case with tibio-calcaneal arthrodesis, performed after en-bloc talectomy for a large grade IB chondroblastoma. **PATIENT AND METHOD:** A 27 year-old male presented with a grade IB chondroblastoma of the talus. A large soft tissue mass was present. Invasion of the adjacent calcaneus was also seen on imaging studies. A double medial and lateral approach was made, allowing complete en-bloc talectomy. During the lateral approach, resection of the distal fibula was done. The remaining intraosseous extension into the calcaneus was curetted and the defect was filled with cement. Reconstruction was achieved by means of a tibio-calcaneal arthrodesis, using the lateral malleolus as bone graft. **RESULTS:** Healing of the arthrodesis was uneventful and occurred at six months. At eleven years of follow up, the patient remains free of disease, and the AOFAS (American Orthopaedic Foot and Ankle Society) functional score is 83 out of 100 points, with limitations regarding hindfoot motion. **CONCLUSION:** For aggressive benign bone tumours with cortical disruption and soft tissue extension, wide resection is advocated. For the rare tumours located at the talus, complete resection is difficult, and the reconstruction options that allow limb preservation are limited. In the present case, en-bloc talectomy, in association with curettage and cementation of the adjacent bone invasion, led to good local control of the disease. For reconstruction, a tibio-calcaneal arthrodesis led to an excellent long-term functional result. This is a simple surgical technique, that should be considered as a valuable limb-salvage alternative for cases in which resection of the talus is needed.

UNIDAD DE TRASPLANTES

CONGRESO ILTS (INTERNATIONAL LIVER TRANSPLANT SOCIETY) – VALENCIA, ESPAÑA

TACROLIMUS VERSUS CYCLOSPORINE AS PRIMARY IMMUNOSUPPRESSION AFTER LIVER TRANSPLANTATION IN CHILEAN PATIENTS.

Miranda Juan Pablo, Jaime Poniachik, Danny Oksenberg, Jose Ibarra, Erwin Quijada, Rodrigo Rimasa, Angelica Borquez, Jaime Castillo, Gonzalo Cardemil, Jorge Jorge, Juan Carlos Diaz.

Background: Cyclosporine (CsA-me) or tacrolimus (Tac) are widely used as primary immunosuppression to prevent rejection in liver transplant recipients, but with different immunosuppression potency and some differences in their secondary effect profile. In Chilean liver transplantation patients, the implications of these differences are not assessed. Aim: We evaluated results and survival from a prospective trial that compared Tac and CsA-me for primary immunosuppression. Methods: From 2002 to 2010, 143 liver transplantation from cadaveric donors were performed at the Hospital Clínico Universidad de Chile. One hundred thirty one (91.1%) received CsA-me or generic tacrolimus (T-Inmun®) as primary immunosuppression. We evaluated clinical variables and the survival of these patients. Statistical analysis was performed with Stata 10.0. Results: Eighty one (60.0%) received CsA-me and fifty four (39.3%) received Tac. Median age was 52.9(21-68) years, not differences for sex. Causes for transplantation in CsA-me group was HCV 30.0%; alcoholic cirrhosis 20.0%; NASH 12.5%; cryptogenic cirrhosis 8.8%; other 28.7% and in the Tac group: NASH 24.5%; alcoholic cirrhosis 15.1%; cryptogenic cirrhosis 13.2%; autoimmune hepatitis 11.3% and other 35.8% (p=ns by group). Patient Survival analysis of group CsA-me were 83.4%, 67.7% and 56.7% at 1,3 and 5 year, respectively, on group Tac were 93.9%, 91.6% and 86.5% respectively (log rank p<0.0001). The infections (16.0% v/s 1.8%) and moderate and severe graft rejections (17.2% v/s 11.1%) were more frequent at CsA-me group (p<0.02). No Differences in relation to acute kidney failure and de-novo insulin-requiring diabetes mellitus were seen. Conclusion: Tac has superior to CsA-me in improving survival (patient and graft) and preventing acute rejection in liver transplantation. Tacrolimus seems to be a more appropriate drug to be used for primary immunosuppression in Chilean liver transplantation.

TACROLIMUS VERSUS CYCLOSPORINE IN ELDERLY LIVER TRANSPLANTATION PATIENTS.

Juan Pablo Miranda, Danny Oksenberg, Jaime Poniachik, Jose Ibarra, Rodrigo Rimasa, Erwin Quijada, Angelica Borquez, Jaime Castillo, Gonzalo Cardemil, Jorge Rojas, Juan Carlos Diaz.

Background: Almost every liver transplant recipient takes either cyclosporin or tacrolimus to prevent rejection of the graft. There are no evaluated immunosuppression to prevent rejection in liver transplant recipients in elderly patients. Aim: To compare the survival from a prospective trial that compared Tacrolimus and cyclosporine microemulsion for primary immunosuppression in elderly patients. Method: Descriptive study, from 2002-2010, in elderly patients. 143 liver transplantation from cadaveric donors were performed in the Hospital Clínico Universidad de Chile. 32 OLT patients were elderly (Age >60 years). Twenty six patients received CsA-me or generic tacrolimus (T-Inmun®) as primary immunosuppression. We show a survival analysis of these patient. Results: The sample comprised 36 liver transplants in 32 patients, average age 63.9±2.3 (60-68) years, 23 male (63.9%) and 13 female (36.1%). Patients were analyzed into 2 groups: Cyclosporine n=19 (C) and Tacrolimus n=16 (T). Average age C=63.8±2.4 (61-68) and T=63.9±2.2 (60-66) years, p=ns. Transplant etiology: 25.7% (9) alcoholic hepatic cirrhosis; 20.0 % (7) NASH; 20.0 % (7) hepatic cirrhosis HCV; 34.3 (13) other. Group C received a dose of 15 mg/kg/day, with dose adjustments based on C2 plasma levels between 800-1200 ng/ml. Group T received a dose of 0,05 to 0,15 mg/kg/day and adjusting doses in order to maintain T trough plasma levels between 10-15 ng/ml, over the three initial post-transplant months. Each group also received steroids with or without mycophenolate mofetil. No differences were seen between the drugs with respect to acute cellular rejection and adverse events (renal failure, lymphoproliferative disorder, diabetes mellitus). The Survival of C were 82.9%, 62.2% and 38.6% at 1, 3 and 5 years, respectively, on T were 86.5%, 79.3% and 79.3% respectively (p<0.006). Conclusions: After liver transplantation in elderly tacrolimus patients had longer survival than cyclosporine patients.

INTERNATIONAL CONFERENCE ON TRASPLANTOMICS AND BIOMARKERS IN ORGAN TRANSPLANTATION – BARCELONA, ESPAÑA

REPERFUSION BILE AND IMMUNE MICROENVIRONMENT IN LIVER TRANSPLANTATION.

Matías Guajardo, Juan Carlos Díaz, Marcos Ramírez, Jaime Castillo, Gonzalo Cardemil, José Ibarra, Angélica Bórquez, Fabian Tempio, Mercedes López.

Introduction: Liver transplantation (LT) is the only therapeutic option for patients that develop end stage liver disease. Many recipients have survived with normal liver function despite the discontinuation of immune suppression, in a clinical condition defined as operational tolerance. At present, researchers in transplant medicine are focused on early detection of tolerance and how to induce it. The liver has a well defined role as an immune organ, with a complex repertory of pro and anti inflammatory cells, involved in hepatic defense and immune regulation. During LT, it is exposed to multiple injuries, such as preservation, ischemia/reperfusion and allo-immune damage. We hypothesized that, after reperfusion, bile secreted as a final product of the liver, can be used to find biomarkers that give insight to the immune microenvironment of this organ. While the immune response is systemic by definition, in organ transplantation it is necessarily linked to a local stimulus. Patients and **Methods:** In patients undergoing LT in our hospital, we prospectively collected bile from the common bile duct immediately after reperfusion, following a protocol to prevent contact with blood from the surgical field. The bile was centrifuged and the pellet analyzed for lymphocytes using microscopy and flow cytometry. The supernatant was analyzed for IL10 and IL12 using a commercial ELISA kit. **Results:** We could identify lymphocytes that can proliferate with an IL2 stimulus in the reperfusion bile by immune staining against CD4 and CD25. With the interleukin profile, we could identify different subpopulation of patients: IL10(+)/IL12(-) and IL10(-)/IL12(+). **Discussion:** The reperfusion bile can be used as a new source to search for biomarkers and get insight into the immune microenvironment in the liver; different patient subpopulations can be identified using the interleukin profile. Using this approach eventually we can detect a subpopulation with a tolerant profile, which can be potentiate using a tolerogenic non lymphocyte-depletive immunosuppression regimen.