

**THURSDAY JULY 31**  
**INTERNATIONAL CONVENTION CENTER**  
**ROOM: SALON BOGOTA**  
**POSTER PRESENTATION**  
**(P. 61 - P. 111)**  
**12:30-14:30**  
**Coordinators:**  
AUGUSTO CORREDOR, COLOMBIA  
MARIA MELIDA DURAN, COLOMBIA  
GONZALO UCROS, COLOMBIA

## PF. 61

**ABNORMAL LEVELS OF ENDOTHELIAL FACTORS IN DIABETES MELLITUS**  
 Almér LO, Jerntorp P, Sundkvist G.  
 Department of Medicine, University of Lund, Allmänna Sjukhuset, Malmö, Sweden

The endothelial cells are exposed to hypo- and hyperglycemia in diabetes, which might affect synthesis and release of endothelial factors important for coagulation and fibrinolysis. Abnormal hemostatic equilibrium has been proposed to be a pathogenetic factor for diabetic angiopathy. We have previously reported elevated levels of F VIII:Ag and decreased fibrinolytic activity in diabetics. New methods are now available to study tissue plasminogen activator (IRMA t-PA:Ag) and a strong inhibitor to this activator, t-PAI.

**Material.** 56 non-diabetic controls were compared to 35 type 1 diabetics, 14 with duration <15 y (mean 6.6 years) and 21 with longer duration (half of them surviving for >40 years with diabetes, mean 33.5 years). 19 type 2 diabetics (known duration <15 years) were also included.

**Results.** Compared to non-diabetics the long-term "survivors" had normal t-PA and t-PAI and only slightly reduced mean fibrinolytic activity on fibrin plates (citratated plasma),  $p < 0.01$ . This was in contrast to the results in type 1 diabetics with short duration, who had a significantly lower t-PA than the other diabetics ( $p < 0.005$ ) and non-diabetics ( $p < 0.02$ ). The t-PAI was higher than in non-diabetics ( $p < 0.001$ ) and "survivors" ( $p < 0.001$ ), and the mean fibrinolytic activity (citratated plasma) on fibrin plates lower ( $p < 0.005$ ) than in non-diabetics. Type 2 diabetics had normal t-PA but significantly elevated t-PAI ( $p < 0.001$ ), most marked in those with angiopathy ( $p < 0.001$ ) and the latter also had a low fibrinolytic activity (citratated plasma) on fibrin plates.

**Conclusions.** Those surviving with diabetes for many decades may be those who manage to keep a normal hemostatic equilibrium. In the other diabetics low t-PA and/or elevated t-PAI result in an impaired fibrinolytic defence system which might participate in the pathogenesis of diabetic angiopathy.

## PF. 62

**ACUTE MEDICAL TREATMENT OF PITUITARY MACROADENOMAS**  
 Aschner P., Camacho LM., Castillo MI., Astudillo H., Medina F., Marquez H.  
 Servicios de Endocrinología, Neurología, Oftalmología y Neuro-radiología, Hospital Militar Central, Bogotá.

Bromocriptine reduces hyperprolactinemia. In macroprolactinomas (MP), normal levels may be achieved after long-term treatment with daily doses of 7.5 mg and tumor shrinkage can be observed after the first three months. Long-term treatment with bromocriptine can also reduce growth hormone (GH) and tumor size in acromegaly.

We have now treated four patients with a new long-acting (LA) preparation of bromocriptine. Two had MPs and two acromegalics had mixed GH and prolactin (PRL) secreting macroadenomas. All had suprasellar extension with headache and involvement of visual fields evaluated by campimetry and visual evoked potentials. Bromocriptine LA was administered as a single i.m. injection of 50 mg and patients were carefully evaluated at least thrice a week thereafter. Only mild hypotension was recorded as side-effect and it lasted just a few days. The mean prolactin levels (3 to 8 daily samples) in the two patients with MPs were 19,196 and 1,991 mU/L and in the two acromegalics were 1,657 and 828 mU/L. Mean GH levels in the latter were 904 and 50 mU/L respectively.

Within 24 hours, PRL reduced to values under 200 mU/L in all but the first patient where it reached a nadir of 1,984 mU/L (almost 100% reduction) and in this patient tumor diameter had decreased 4 mm by the 21st day (Tomoscan 340). Patients 1 and 4 showed significant improvement in visual fields. Symptoms improved in all within the first week. No change in the GH levels was observed in the two acromegalics during one month follow-up.

Therapeutic and prognostic value of this novel treatment before or instead of surgery will be discussed.

## PF. 63

**HYPOTHYROIDISM AND HYPERPROLACTAMIA, ITS IMPORTANCE IN GYNECOLOGICAL ENDOCRINOLOGY**

Carlos S. Hernandez Cassis, Carlos Cure Cure  
 Barranquilla, Colombia

We reviewed 841 patients and 46 control in whom T<sub>3</sub>, T<sub>4</sub> TSH and PRL post-TRH were practiced.

We found 283 primary hypothyroid patients (33.6%) classified as latent (21.6%); subclinical (10.8%) and clinical symptomatic (12.2%).

We studied 5 hyperthyroid patients during treatment with Tapazol and 3 yatrogenic hypothyroids patients during therapy with Tiroxine.

Of 18 prolactinomas (2.1%), 7 (38.9%) were hyper-response to TSH and TRH.

In the 165 hypothyroid patients, the symptoms before treatment were galactorrea (85.7%) symptomatics (33.8%) subclinicals; (38.7%) latents. Menstrual irregularities 100% in-clinical, 55.4% subclinicals and 41% in latents.

We found hyperprolactinemia in 100% symptomatics, 65.9% of the subclinicals and 52.4% of the latents.

PRL and TSH post TRH in hyperthyroid patients and in those treated with T<sub>4</sub> were lowered, in hypothyroid patients and post-treatment with Tapazol they were elevated.

There was correlation  $r=0.64$  and  $0.91$  between TSH and PRL post TRH in symptomatic and post Tapazol, respectively.

1. Hypothyroidism is frequent cause of hyperprolactinemia within us. 2 mayor frequency of hyperprolactinemia with severe hypothyroid patients. 3. There is a close correlation between TSH and PRL post TRH in clinical hypothyroidism.

## PF. 64

**EVALUATION OF PARAMETERS FOR HYPOTHYROID PATIENTS TREATED WITH L-THYROXINE.**

N. Custro, V. Scafidi, I. Indovina  
 Istituto di Clinica Medica, Cattedra di Patologia Medica R-University of Palermo.

The aim of the present paper is to evaluate the specificity and sensibility of clinical and hormonal parameters used to trial hypothyroid patients treated with L-thyroxine. We performed 38 controls in 7 patients. A T<sub>4</sub> increase over parameters range without increase of T<sub>3</sub>, FT<sub>3</sub>, FT<sub>4</sub> and without pituitary suppression was often seen in overdosage of L-thyroxine. Clinical data were not related with all hormonal parameters. Significant correlation were found between T<sub>4</sub> and TSH ( $p < 0.001$ ), T<sub>4</sub> and  $\Delta$ -TSH ( $p < 0.001$ ), T<sub>3</sub> and TSH ( $p < 0.01$ ), FT<sub>3</sub> and  $\Delta$ -TSH ( $p < 0.001$ ), FT<sub>4</sub> and  $\Delta$ -TSH ( $p < 0.01$ ). A significant correlation was found between Billewicz's index and FT<sub>4</sub> and  $\Delta$ -TSH ( $p < 0.02$ ). The evaluation of appropriate substitutive treatment with L-thyroxine have to be done with clinical examination and all hormonal data available, because during adjustments of therapy, unusual relations between thyroid hormones, TSH and clinical observation can be happen.

## PF. 65

## SEVERE AND IRREVERSIBLE HYPERTENSION ASSOCIATED WITH THE USE OF CYCLOSPORINE FOR GRAVES'OPHTHALMOPATHY.

A.G. Dupont<sup>1</sup>, J. Sennesael<sup>3</sup>, D. Verbeelen<sup>3</sup>, K. Van den Houte<sup>2</sup>, L. Van Haelst<sup>2</sup>, L. Paul<sup>4</sup>

Departments of Internal Medicine (1) and Pathology (2) and Renal Unit (3), Vrije Universiteit Brussel, Brussels, Belgium, Department of Nephrology (4), University of Leiden, The Netherlands.

A 39 year-old woman with increased systolic blood pressure associated with hyperthyroidism became severely hypertensive while receiving cyclosporin A (CyA) for Graves'ophthalmopathy. Restoration of the euthyroid state and discontinuation of the drug were not successful in decreasing blood pressure. There was no history of essential hypertension. Secondary causes of hypertension were excluded on the basis of normal intravenous pyelography, renal scan and arteriography and normal values of PRA, serum aldosterone, urinary VMA and catecholamines. Kidney biopsy revealed interstitial fibrosis with perivascular sclerosis. In animal models of CyA nephrotoxicity CyA causes renal vasoconstriction which is mediated by the renal sympathetic nervous system. Since thyroid hormone augments the normal response of tissues to sympathetic stimulation, it is tempting to speculate whether the enhanced adrenergic activity associated with hyperthyroidism might have triggered the development and augmented the severity of the CyA-associated hypertension in this patient. Although there is a high frequency of reversible increase in blood pressure from CyA, this patient's clinical course suggests that irreversible hypertension can occur as well.

## PF. 66

## THYROID FUNCTION IN THE ELDERLY: EVALUATION OF THE HYPOTHALAMUS-PITUITARY-THYROID AXIS.

Hernández Cassis S., Hernández Cassis J.

It is well-known that the physiological and pathological aging influences directly the Endocrinology System, thus causing non-typical symptoms and most of the time their misinterpretation in old patients. This study shows the behavior of the Hypothalamus-Pituitary-Thyroid Axis when a Thyroid dysfunction exist.

Forty patients-mean age of 70.4 yrs.- 35 women (87.5%) and 5 men (12.5%) with suspicion of Thyroid dysfunction were divided into three groups according to the lab values:

T<sub>3</sub>, T<sub>4</sub>, basal TSH and post an iv. bolus of 200 mcg. of TRH at 20 minutes. It resulted as follow: GI (14 patients) hyper-responded to TRH (>22 uU/ml); GII (15 patients) with hyporesponse to TRH (<8.8 uU/ml) and GIII (11 patients) normal response (8.2-22 uU/ml).

Significant statistical differences were found (p<0.0005): TSH at 20 minutes in all groups and basal TSH between GI-GIII; GII-GIII. GI suffered a classic clinical picture of Hypothyroidism with high TSH at 20 minutes. GII contrary to what was expected it showed Goiter (83.3%), Depression (50% and Constipation (60%) with low response of TSH. GIII showed minimal symptoms with TSH at 20 minutes normal.

In summary we observe a group of primary Hypothyroids with a pronounced elevation of TSH. Low levels of basal TSH and post-TRH neither discards nor proves in the Elder an existence of the an alteration in the Hypothalamus-Pituitary-Thyroid Axis. Therefore, one should be based in the individual and clinical study of the patient.

## PF. 67

## MULTIFACTORIAL TREATMENT IN OSTEOPOROSIS (CLINICAL AND RADIOLOGICAL STUDY)

Inlesias G.A., Hernández C., Munar W., Ardila O., Chinchilla A., Gonzalez M., Duran L.: Universidad del Norte - Clínica de Fractura - Radiológicos A

sociados, Barranquilla - Colombia

We define osteoporosis as the reduction in bone tissue per volume unit below the appropriate age and sex levels, keeping in mind the fact that there is no change in bone mineralization in osteoporotic patients. The authors developed a special protocol that would keep in evaluating and correlating clinical, laboratory and radiological features with the use of sodium fluoride. We studied 100 osteoporotic patients with ages ranging from 25 to 90 years ( $\bar{x}=70.2$ ). On hundred and forty suffered from type 2 osteoporosis, 9 had type 1 disease, 1 with idiopathic osteoporosis, and 10 osteoporotic multiple myeloma patients. We performed a radiological assessment in all patients including: Dorso-lumbar spine, hip, hands, and calcaneus, analyzing the tubular ratio (singh index). Blood tests were performed for calcium, phosphate, protein electrophoresis, and Renal function; urine tests performed included calcium, phosphate and 24 hrs-hydroxyproline levels. We also performed bone marrow biopsies in 20 patients (including those with multiple Myeloma). The radiological assessment was repeated every 3 months and the other blood and urine test were done every 2 month. We established 3 treatment groups, as follows: Group A received 25 mg/day sodium fluoride + 1 g/day elemental calcium + 400 U/day vitamin D (45 patients); Group B (55 patients) received 50 mg/day FNa + 1g elemental calcium + 400 U/day vitamin D. Group C (multiple Myeloma patients) received vitamin D 400 U every other day + sodium fluoride 25 mg/day. Initial complaints included diminished height, skin folds, back pain upon awakenings, scoliosis, staggering gait, Kummel fracture, enhanced kyphosis, and muscle weakness in lower limbs. Our conclusion are: Clinical and Radiological responses are better for patients in Group B. These patients stop feeling back pain, staggering gait and limb muscle weakness their radiological improvement starts 6 months after the initiation of treatment and is characterized by the appearance of vertical bone trabeculae in the spine and followed by the same phenomena in calcaneus and hip during month 7. This sequence was assessed in 90% of Group B patients and 60% of Group A patients, though, in the latter group, the changes just described appeared at the 8th and 9th months, after starting treatment. It is important to notice that clinical response to pain was achieved between the third and sixth weeks, while muscular weakness and staggering gait disappeared later (6-10 and 8-12 week, respectively). Paraclinical follow-up showed diminished calcium excretion during the first 4 months, until normal levels are achieved and maintained.

## PF. 68

## EVALUATION OF A DIETARY EDUCATION PROGRAMME FOR ASIAN DIABETIC PATIENTS ATTENDING A ROUTINE CLINIC

Jenson E M., Peterson D B., Baylis J M., Dattani J T., Frost P G

Nutrition &amp; Diabetes Research Group, Willesden Hospital and Dept of Chemical Pathology, Central Middlesex Hospital London NW10, UK.

We evaluated a dietary education programme consisting of a 12-minute videotape in Hindi and a leaflet in Gujarati/English produced to advise Asian diabetic patients. Patients were randomised to treatment (T, n=35) and control (C, n=34) groups matched for age, sex and duration of diabetes. Group T received the leaflet at their first visit and saw the video; they borrowed a copy of the video to watch again with their families. Both groups attended on 3 occasions (0, 6 and 14 weeks) when fasting blood samples were taken and a detailed questionnaire administered to determine changes in the frequency of consumption of refined carbohydrates, fried foods and pulses. All received standard clinic care and medication was not altered. Improvements in overall eating patterns were found in more T than C patients at their second visit compared with the first (14 v. 8,  $\chi^2 = 6.559$ , p<0.02). Much of this benefit remained at the third visit (12 v. 3, NS). Mean ( $\pm$  sem) HbA<sub>1c</sub> % fell in group T from 12.2  $\pm$  0.5 at first visit, to 11.4  $\pm$  0.4 at second visit (p = 0.003) and 10.8  $\pm$  0.4 at third visit (p = 0.001); C = 11.2  $\pm$  0.6, 11.2  $\pm$  0.5 and 10.8  $\pm$  0.5 respectively, NS. There were no significant changes in body weight. Use of culturally appropriate educational aids can improve overall eating patterns and glycaemic control of Asian diabetic patients in a routine clinic where communication barriers make management difficult.

## PF. 69

PRIMARY HYPERPARATHYROIDISM AND LITHIUM THERAPY  
 Krivitzky A., Bentata-Pessayre M., Sarfati F., Callard P.,  
 Delzant G.

Hop. J. Verdier, Univ. Paris XIII 93140 BONDY (France).  
 Hyperparathyroidism on lithium therapy was occasionally reported since 1973; coincidence is possible according to the frequency of hypercalcemia and larger use of lithium for maniac depressive psychosis. The first report of 3 successive proved adenomas arising on this treatment, the review of the other published cases, and experimental facts support the hypothesis of a direct action of lithium on calcium homeostasis.

We report the case of a 64 year old woman who had been taking lithium carbonate for 12 years. Diagnosis of primary hyperparathyroidism was made in consideration of hypercalcemia, inappropriate level of parathormone and non suppressible rise of nephrogenic AMPc level. Hypercalcemia did not improve after the removal of a chief cell adenoma on the left inferior parathyroid; tomodensitometry of the cervico mediastinum was normal; a new cervicotomy led to the removal of an adenoma on the fourth parathyroid in high retrooesophageal ectopic situation. Persistent hypercalcemia and selective venous samplings allowed the removal of a third adenoma in the mediastinum; then the patient remained hypocalcemic. Lithium had not been discontinued, according to the patient's will.

18 clinical cases of primary hyperparathyroidism under lithium therapy are reported, but asymptomatic mild hypercalcemia with inappropriate high parathormone seems more frequent. Duration of treatment is most variable from 1 day to 12 years and calcemia up to 3,9 mmol/l. 10 patients underwent cervicotomy with removal of an adenoma, 6 of them remaining later under treatment with 2 recurrences in our case 5 of the 8 non operated patients remained on lithium therapy and showed mild hypercalcemia.

Lithium seems to raise the set-point of parathormone suppression by calcium increase. For others, experimental facts support the hypothesis of a lithium mediated alteration of the AMPc response to parathormone. Asymptomatic hyperparathyroidism can develop, and even adenomas after a treatment of longer duration.

## PF. 70

PRIMARY PSEUDO ALDOSTERONISM AS A CLINICAL FORM OF APPEARANCE OF A SUPRARENAL MYELOLIPOMA/REPORT OF A CASE AND REVIEW OF LITERATURE.  
 Larrea R., Sollet R., Paramio A., Duarte G.,  
 Fuentes M., Polanco F.

Service of Internal Medicine of "Hospital Comandante Fajardo". La Habana, Cuba.

Description of a case of suprarenal myelolipoma in a Hypertensive and obese patient, with preoperative examinations highly suggestive of primary aldosteronism, such as Hypokalemias kept even post overloaded saline, low dosage of renin and therapeutical response to Aldactone. A review of the literature on these rare tumors is carried out.

It is concluded that our case was clinically detected as a primary pseudoaldosteronism, event not previously described in these tumors of fat and bone marrow at a suprarenal level, of which less than 40 cases have been reported in living persons.

## PF. 71

HIGHLY SENSITIVE IMMUNORADIOMETRIC ASSAY(IRMA)FOR  
 SERUM TSH IN THE DIAGNOSIS OF HYPERTHYROIDISM:  
 COMPARISON WITH A TRADITIONAL RIA METHOD.

G. Licata, R. Scaglione, M. A. Dichiarà, I. Indovina.  
 University of Palermo, Institute of Clinical Medicine.

The following study was carried out to investigate the great performance of serum TSH IRMA method and to verify the possibility of diagnostic discrimination, with TSH IRMA assay, between hyperthyroid and euthyroid patients. We compared a TSH RIA method with TSH IRMA in 25 euthyroid and in 12 hyperthyroid patients (of which 8 in treatment with 15mg/die of metymazole). We obtained the following results:

- 1) higher mean serum TSH levels with RIA method ( $1.64 \pm 0.63$  mul/ml) in comparison with IRMA TSH ( $1.21 \pm 0.60$  mul/ml) in euthyroid patients with statistically significant difference ( $p < 0.01$ )
- 2) a statistically significant reduction ( $p < 0.005$ ) of mean serum TSH levels with IRMA method ( $0.25 \pm 0.28$  mul/ml) in comparison with RIA method ( $0.79 \pm 0.40$  mul/ml).
- 3) lower serum IRMA TSH values in all hyperthyroid subjects in comparison with those obtained with RIA method. Moreover, 3 patients presented suppressed TSH levels with IRMA method; on the contrary the same subjects showed higher RIA TSH serum levels.
- 4) the analysis of quality parameters suggest improvements in the intra assay variation (CV IRMA=5.4%, CV RIA=3.6%) and in interassay variation (CV IRMA=9.6%, CV RIA=6.3%). Our data confirmed a good diagnostic discrimination with serum TSH IRMA between hyperthyroid and euthyroid subjects. It's caused by the presence in the IRMA method of monoclonal antibodies directed against human TSH that determines a must precision, accuracy and sensitivity of serum circulating TSH assay.

## PF. 72

SERUM ANDROGEN LEVELS IN HIRSUITE WOMEN AND THEIR RELATION WITH OVERWEIGHT, SERUM LEVELS OF THYROTROPIC HORMONE (TSH) AND PROLACTIN (PRL).  
 Mockus I., González L., Alayón R., Moreno M.C.  
 Sección de Endocrinología, Hospital San Juan de Dios, Universidad Nacional, Bogotá, Colombia.

To evaluate the possible relations between hirsutism and obesity, hypothyroidism and hyperprolactinemia, a group of 71 hirsutes and a control group of 11 women were studied and their serum hormone levels were determined by RIA: dehydroepiandrosterone sulfate, androstenedione, total testosterone (TT), free testosterone, 17OH-progesterone, LH, FSH and TSH and PRL before and after the administration of TRH. Hirsutes were classified depending on their body mass index ( $IMC \geq 25$ ).

Comparing hormonal levels between obese and no obese hirsutes, the only significant difference was found in the values of TT ( $p < 0.05$ ). No significant correlation between androgens and TSH and/or PRL before and after TRH was noticed. We concluded that obesity can be a propitiator factor of hirsutism. Despite the fact that some hirsute women had high levels of TSH and PRL (before and/or after TRH), our results didn't support a causal relation.

## PF. 73

SERUM FACTORS IN ASYMPTOMATIC THYROIDITIS IN ELDERLY PEOPLE  
V.de Maertelaer, R. Calay, P. Nève.  
IRIBHN, Statistical Unit; Dept of Internal Medicine and  
Laboratory of Experimental Medicine, CHU Montigny-le-Tilleul  
Faculty of Medicine, University of Brussels, Belgium.

The probability of developing coronary heart disease (CHD) has been described to be higher in euthyroid subjects affected with autoimmune thyroiditis (AAT) than in pure euthyroid subjects and still higher in hypothyroid patients. Whether this situation is directly related to the modification in the thyroid function, or whether variables not directly related to the thyroid intervene, is not known. Our approach to contribute to solving this problem is based on the fact that the AAT state is recognized as precursor of hypothyroidism, i.e. intermediate between pure euthyroidism and hypothyroidism with thyroid antibodies, as far as thyroid-related variables are considered. Elderly subjects (older than 69 years of age) of those three groups were investigated for about forty serum factors; these were thyroglobulin, microsomal, gastric and adrenal antibodies, LE cells, thyroid, lipid immunological variables and variables linked with inflammatory processes. Mean levels in women with AAT were intermediate between pure euthyroid and hypothyroid ones with thyroid antibodies for  $rT_3$ , basal TSH, post TRH-TSH and cholesterol, partly confirming other reports. It is observed here that AAT levels are also modified for  $T_4$ ,  $T_4$  after TSH, triglycerides, HDL, albumin and inflammatory variables, but in men only. Contrarily to women, no increased mean level of cholesterol is observed in male patients with AAT, thus suggesting that the increased prevalence of CHD in AAT patients does not only result from enhanced cholesterol levels. Other mechanisms should thus exist involving, either directly or indirectly, factors modified in AAT. A possible role of triglycerides (raised in AAT men) and/or of HDL (lowered in AAT men) should be envisaged. The present study also clearly demonstrates the necessity of separately investigating men and women.

## PF. 74

GLICEMIC AND INSULINEMIC CHANGES DURING THE IMA  
Mattace R., Baserga M.  
1° Medical Clinic, Bologna University.

During IMA there are changes in the glucose metabolism; these are altered tolerance to glucose and resistance to insulin. There is still controversy among different authors concerning the causes of these alterations. These authors have 220 patients who were admitted to the hospital within a few hours after the initiation of IMA. Insulin, blood sugar, CPK and  $HbA_{1c}$  levels were quantified.

From the 220 patients, 105 of them have hyperglycemia when they were admitted. Of these 105 patients 62 patients had no reason for hyperglycemia except IMA.

Blood sugar values presented gradual decrease to normal levels during the first 14 days. Insulin values followed closely the blood glucose values.

## PF. 75

GLYCOSILATED HEMOGLOBIN IN PATIENTS WITH IMPAIRED GLUCOSE TOLERANCE BEFORE AND AFTER WEIGHT REDUCTION  
Narvaez M.S., Aschner P.  
Asociación Colombiana de Diabetes, Bogotá.

Glycosilated hemoglobin (HbA1) is now considered one of the best indexes of metabolic control in diabetics. It also reflects protein glycosilation which is directly implicated in the development of microangiopathy. Whether these considerations are relevant to patients with impaired glucose tolerance (IGT) has not been defined yet. We studied HbA1 levels in 18 patients with IGT diagnosed according to WHO criteria and compared them with 20 age-matched normal subjects. HbA1 was significantly higher in the IGT group ( $8.7 \pm 0.54\%$  vs.  $7.0 \pm 0.45\%$  SD) although fasting blood glucose was similar ( $88.7 \pm 7.6$  vs.  $82.3 \pm 5.7$  mg/dl) on two occasions. Patients with IGT were placed on a standard 1000 calorie diet (50% CHO). After three months all had reduced weight ( $64.4 \pm 10.8$  vs.  $68.1 \pm 10.7$  kg) although it was not statistically significant. Their glycaemia 2 hours after an oral glucose load of 75 g had reduced significantly ( $141.4 \pm 28.3$  vs.  $163.3 \pm 7.0$  mg/dl) showing a normal response in many cases. Concomitantly, HbA1 also decreased significantly (to  $8.1 \pm 0.51\%$ ) becoming similar to controls. These results suggest that patients with IGT already have increased HbA1 perhaps related to post-prandial hyperglycaemia. They may be therefore at risk of developing microangiopathy. Actually, some researchers have reported basal membrane thickening in the capillaries of these patients. Weight reduction achieved by low calorie diet may reverse this abnormality by decreasing protein glycosilation.

## PF. 76

PANHYPOPITUITARISM AND EMPTY SELLA SYNDROME  
Palacio A., Rubio R., Gutierrez Millet V., Bernal C.,  
Dominguez L., Ramirez J., Fernandez Miranda C.

The Empty Sella Syndrome is a condition whose etiology is not clear. It is more frequent in women. It is associated with obesity, hypotension, pseudo brain tumor and congestive cardiac insufficiency. The endocrinological changes are variable, ranging from normal to partial deficiency and, in rare case, panhypopituitarism. The first case, a 68 year old male, showed papillary edema, campimetric deficiency and the neuroencephalography showed a suspicious intrasellar mass, while the Cat Scan showed a possible empty sella syndrome. The neurosurgical exploration, performed because of this divergence, showed the absence of hypophysial tissue.

The second case was a 30 year old male; the high resolution Cat Scan showed an Empty Sella Syndrome.

Both cases had clinical and biochemical panhypopituitarism and an enlargement of the sella in the simple X-Rays of the brain.

We wish to point out two new cases of Empty Sella Syndrome which show, as a rarity, panhypopituitarism.

The application of methods such as the high resolution CAT Scan can avoid unnecessary surgical interventions.

## PF. 77

## INAPPROPRIATE ANTIDIURETIC HORMONE SECRETION AFTER CHEMOTHERAPY WITH VINCA ALCALOIDS.

Recchia E. M.D. - Rabbitti G. M.D.  
Hospital Avezzano, Italy

All Vinca Alcaloids apparently arrest cell division by inhibitory microtubule formation. They bind directly to tubulin and prevent its polymerization from soluble dimers into microtubules, event at low concentration of the drug - Microtubules are involved not only in mitosis, but also in axoplasmic transport and in a variety of secretory functions, and much of the neurotoxicity of the Vinca Alcaloids might be explained by disruption of this process. There has been pathological evidence of the presence of axonal spheroids in the area lenticularis and the area surrounded by the substantia nigra, amygdala and supraoptic nucleus, with normality of the secretory neurons.

These pathological findings suggest that these fibers play a role in the development of inappropriate secretion of antidiuretic hormone caused by Vinca Alkaloids. Clinically these patients are treated with withhold of the Vinca alkaloid, water restriction, demochocyclin, and infusion of hypertonic saline.

## PF. 78

## DIABETIC NEUROPATHY IN NON-INSULIN DEPENDENT DIABETES MELLITUS.

Reyes A., Rodríguez A., Salgado J.

Departamento de Medicina Interna, Hospital San Juan de Dios, Universidad Nacional de Colombia. To identify the frequency of diabetic neuropathy associated to diabetes mellitus in our Hospital, a study over a six-month period was designed.

Anamnesis, physical examination and electrophysiological studies were performed in 20 patients. Diabetic neuropathy was found in all cases in which the sensitive type predominated and it was symptomatic in 60% of the patients, it was found on physical examination in 50% of the patients and confirmed on the electrophysiological studies in 100% of the patients.

Motor neuropathy was the second type of diabetic neuropathy that was found. It was symptomatic in 20% of the patients; it was found on physical examination in 40% of the patients and confirmed on the electrophysiological studies in 100% of the patients.

The autonomic neuropathy was the third type of diabetic neuropathy that was found. It was symptomatic in 10% of the patients. The parasympathic was altered in 65% of the patients.

We conclude that the relationship between diabetic neuropathy and diabetes mellitus in our study was very high (100%) and significative (p 0.001). This kind of diagnostic is occasionally made and implies the very low physicians' knowledge of this complication of the diabetes mellitus.

To perform a simple test and electrophysiological studies to make the diagnosis of diabetic neuropathy are described and recommended.

## PF. 79

## BEHAVIOUR OF RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM (R.A.A.S.) DURING MENSTRUAL CYCLE AND ITS IMPORTANCE IN PHYSIOPATHOLOGY OF PREMENSTRUAL SYNDROME (P.M.S.)

Salerno L., Pepe S.\*, Salli L.\*, Corrao S., Curiale B., Indovina I.\*

Chair of Medical Physiopathology and chair of Medical Pathology - University of Palermo - Italy

Our research has two objectives: a) studying the behaviour of R.A.A.S. during the normal menstrual cycle; b) checking the eventual importance of R.A.A.S. in physiopathology of P.M.S..

Fifteen women, aged 22-30, were included in the study. At 1<sup>st</sup>, 14<sup>th</sup> and 21<sup>st</sup> day of the cycle P.R.A. and Plasmatic Aldosterone (P.A.) were determined. The presence and the severity of P.M.S. have been evaluated by a set of questions about following symptoms: mammary tension, headache, irritability, anxiety and depression.

In 6 subjects P.R.A. and P.A. have not had changes during the menstrual cycle, whereas in 9 they showed a significant increase at 14<sup>th</sup> and especially at 21<sup>st</sup> day of cycle (p < 0,001). In these 9 women the symptoms of P.M.S. had more frequency and severity.

In conclusion the R.A.A.S. activation has probably influence in the determination of P.M.S..

## PF. 80

## FOLLOWING OF THE ENDEMIC OF GOITER AT MARIQUITA (TOLIMA) DURING 36 YEARS.

## INFLUENCE OF THE NEVADO DEL RUIZ IN RELATION WITH THE GOITER IN A ECOSYSTEM.

Ucrós A., Niño A., Hernández E., Romero G., Acosta E., Vergara L., Hoyos N.

Hospital de San José - Universidad del Rosario - Bogotá, Colombia

The totality of the school population of Mariquita (Tolima) Colombia was studied with the purpose of establishing the incidence of goiter in this population and a statistically significative sample was taken to determine the function of the gland in this group, the presence of antithyroid antibodies and the uptake of I 131 at 24 hours.

The frequency and distribution of goiter was determined by clinical examination.

A 26.6% frequency of goiter was found on the population, being more frequent the diffuse form (24.6%) than the nodular form (2%). The TSH values were found between limits in 89 patients (88.1%) and elevated in 12 (11.9%). None of the patients with elevated TSH levels presented clinical signs of hypothyroidism or low T4 values.  $\bar{x}$  TSH = 4.4 SD = 2.52  $\bar{x}$  T4 = 9.9 = SD = 2.12

The T4 values were found in 100% of the cases with a tendency to be near the higher normal limits.

The antithyroid antibodies were negative in 95% of the cases studies.

The 5 positive cases (4%) were present in low toters.

The uptake of I 131 were found in 12 (92%) with SD: 4.33.

The conclusion is that the endemic of goiter persist in the population even with the iodination of the salt introduced in 1959; the population studied is euthyroid and has goiter with a low affinity to iodine. The autoimmune factor is excluded as a possible etiology.

A revision of forward studies in the country is performed and the goiterogenic effect of waters from the Nevado del Ruiz is stated, as well as the effects of the ashes through the time and multiple eruptions.

PF. 81

REGIONAL FAT DISTRIBUTION AND ATHEROSCLEROTIC RISK IN TYPE II DIABETES.

Van Gaal L., De Leeuw I., Bekaert J.  
Lab. Endocrinology & Metabolism, University of Antwerp UIA, Belgium.

Due to the recent knowledge that the distribution of fat deposits in middle aged men would be a better predictor of cardiovascular disease than the degree of obesity (Larsson, 1984), we evaluated some risk factors for atherosclerosis in 51 middle age type II male diabetics. We studied the abdominal adiposity, reflected by the waist to hip circumference ratio (w/h), related to parameters of metabolic control (HbA1), lipid parameters and known vascular complications.

The following data were evaluated in three groups :

- non-obese type II diabetics (NOB)
- non-obese type II diabetics with excess of abdominal adipose tissue (NOB-ABD)
- obese (BMI > 28) diabetics with abdominal fat excess (ABD-OB)

	NOB	NOB-ABD	ABD-OB
age	55.7±8.1	58.3±8.6	54.9±6.4
HbA1 (%)	7.83±1.25	9.17±1.69	8.89±1.72
HDL-cholesterol (mg%)	43.8±8.6	33.0±7.5	36.5±9.1
total/HDL-cholesterol	5.26±1.64	7.43±1.84	6.08±1.84
BMI	24.3±1.9	25.5±1.6	31.4±2.5
Vasculopathy (%)	10	50	28
Hypertension (%)	10	50	43
Isch. heart disease (%)	30	60	43

A highly significant (p<0.001) correlation was present between w/h and HDL-cholesterol and w/h and total/HDL-cholesterol ratio. A similar correlation could be found between w/h and both systolic and diastolic blood pressure.

These results confirm the negative effect of an excess of abdominally located fat cells, even without manifest obesity, on diabetes metabolic control, lipid fractions and cardiovascular complications.

PG. 82

COMPUTERIZED DIFFERENTIAL GLOMERULAR FILTRATION

JJ. Ahumada, I. Cadavid, S. de Blanco.  
Sección de Medicina Nuclear, Instituto Nacional de Cancerología, Bogotá, Colombia.

The clearance of Tc-99m-DTPA has been widely accepted as a test of glomerular function, having replaced the use of inulin and creatinine clearance due to its simplicity and the lack of urine collection. But this method still needs blood sampling and does not give differential glomerular filtration information.

With the advent of microcomputers into the medical procedures, individual renal parameters can now be evaluated.

Following the method described by Gates (Clin Nucl Med 8:400-407, 1983), one hundred and twelve patients have been studied. Differential glomerular filtration was calculated through an analysis of the events of the second minute after the injection of a 3 mCi dose of Tc-99m-DTPA, by the use of a scintillation camera interfaced to a microcomputer. Regions of interest were drawn around each kidney and a common background areas was chosen. Calculations included differential depth-corrected kidney uptake of the injected radiopharmaceutical and the computation of a regression equation developed by the cited author. The usual two blood sample procedure was also followed in each patient as a means of validation. The mean total glomerular filtration rate obtained through the computerized method was 80.7 ml/min ± 30 ml, and the manual procedure gave 77.7 +/- 31 ml. The correlation was 0.82 and the linear equation was Y = 0.92X - 1.39.

The computerized method has no need for blood or urine sampling, takes very little time and gives differential information of kidney function. It can be performed in any Nuclear Medicine Department provided with a scintillation camera and microcomputer.

PG. 83

PROTEINURIA: DETERMINATION AS A SINGLE VOIDED SAMPLE VERSUS A 24 HOUR COLLECTION.

Aroca G., Martínez M.E., D'Achiardi R., Torres H.  
Servicio de Nefrología, Departamento Médico, Hospital Militar Central, Bogotá, Colombia.

Measurement of 24 hour urinary protein excretion is the most used method to quantitate proteinuria, however a 24 urinary protein excretion is not an ideal method for several reasons, for example inadequate collection.

It has been suggested in the literature that a relation between protein and creatinine (p/c) in a single voided sample of urine could be as helpful as a 24 hour urine collection for purposes of protein quantification.

In the present study in 50 adults with normal renal function: 25 healthy adults and 25 patients with proteinuria of several causes we measured 24 hour urine protein excretion per 1.73 m<sup>2</sup> body surface area and compared the results with the ratio p/c taken single voided samples of urine at 4 different times during the day (8:00 H, 12:00 H 18:00 H. and 22:00 H.).

We found a significant correlation in all the samples taken at different times during the day.

Patients with 24 urine protein excretion less than 0.15 grs had a p/c less than 0.15. Patients with 24 hour urine protein excretion greater than 3.5 grs had a p/c greater than 3.5

Measurement of urinary protein in single voided samples was greater during the hours of physical activity. Single voided sample urine at 8:00 H correlates best with 24 hour urine protein excretion.

In summary the ratio p/c in a single voided sample of urine is an accurate estimation of protein excretion.

In addition it is simple, practical, easy to perform and can be used as a substitute for 24 hour urine collection.

PG. 84

RENAL TRANSPLANTATION IN BUCARAMANGA

Cala RA, Gamarra G.  
Renal Transplantation Group. University Hospital Ramón González Valencia.  
School of Medicine U.I.S. Bucaramanga. Colombia.

From July 8, 1981 to February 7, 1986 (55 months), 35 allografts have been performed on 30 patients. Thirty two (91.4%) were from cadaveric donors. Nineteen patients (63.3%) were males. The age of recipients fluctuated between 20 and 58 years (average 34.6). The causes of renal failure were: chronic glomerulonephritis 12, obstructive uropathy 1, diabetic nephropathy 1 and unknown 15.

Kidney perfusion was performed with Ross solution in 13 cases, Collins solution in 1 and Ringer Lactate in 21. Regional anesthetic was utilized in 23 (65.7%) transplants. Infection was the most usual complication: 2 episodes per patient, but usually it was benign. Acute rejection had 75% of incidence in cadaveric transplant.

The actuarial survival in cadaveric donor transplant was:

	Graft (%)	Patient (%)
1 month	77.4	93.5
12 months	58.3	83.3
24 months	50.0	77.7
36 months	45.4	72.7

Rejection caused graft lost in 6 cases (42.8%); other causes include technical problems.

Mortality causes were: pulmonary embolism 1, pulmonary edema 1, ventricular fibrillation 1, acute pancreatitis 1, cerebral leucodystrophy 1, subdural hematoma 1, and loss of control 1.

At present, there are 21 patients with graft functioning normally: 11 working full-time, 4 students, 4 housewives and 2 retired

EPIDEMIOLOGY OF ARTERIAL HYPERTENSION TAKEN FROM A HOSPITALARY POPULATION INSCRIBED TO THE SOCIAL SECURITY SERVICE.

Casasbuenas J., Ferreira G., Feuillet P., Sánchez O. Clínica-Hospital Fray Bartolomé de las Casas. Bogotá, Colombia.

Retrospective study from 7090 clinical records between 1977-1985 where it was found that Arterial Hypertension disease was the most prevalence (with a total of 1167 cases which corresponding to a 16,46%). It was also found that there is a high prevalence of diseases such as: Congestive Heart Failure 15,21%, Diabetes 8,84%, Coronary disease 5,28%, cerebrovascular disease 4,21% and Myocardial Infarction 3,00%. Five analyses were made based on: sex, age, occupation, hospitalary permanence and condition upon leaving the hospital. It was found that the group between 60-70 years old had the highest prevalence of Arterial Hypertension with 33% in men and 28,6% in women. The time of hospitalization was on average of 16,6 days. The distribution of frequency by sex showed a 45,6% for men and 54,3% for women ( $P < 0,001$ ) statistically significant. The condition upon leaving the hospital showed recovery in a 74,3%, a mortality rate of 6,60% associate with approximately 80% with Cerebrovascular disease. The diseases that were found most frequently associated with Hypertension were Congestive Heart Failure 18%, Coronary disease 17%, Diabetes 16% and Cerebrovascular disease 15%.

Arterial Hypertension was found of prevalence in women especially in housewives with 61%; this survey allow to stand out possible relationships between high prevalence of Arterial Hypertension on housewives belonging to a social-economical level having an annual income around US\$ 1550.

ACUTE HANTAVIRUS (HV) - NEPHROPATHY : A SERO-EPIDEMIOLOGICAL STUDY IN BELGIUM.

J. Clement (Military Hospital, Brussels) G. van der Groen (Institute of Tropical Medicine, Antwerp) BELGIUM.

Hantaan and related viruses, forming a new genus (Hantavirus or HV) in the Bunyaviridae family, are recently recognized as a cause of acute renal failure (ARF) in Europe. A typical case of acute HV-nephropathy is described. The kidney biopsy showed acute interstitial infiltration. The diagnosis was confirmed by an unequivocal rise in the titer of specific antibodies, detected in the indirect immunofluorescent antibody test (IFAT). The antigen used in this IFAT is Hantaan virus strain 76 - 118, cultured in Vero E6 ( African green monkey )- cells.

In a prospective sero-epidemiological study, carried out in the civilian ( total N : 12,767 ), and in the military ( total N : 7,123 ) sector, a prevalence of antibodies against Hantaan of 1.6 % and 0.91 % respectively was found. In the civilian group however, sera of clinical documented cases, as well as people with increased risk for infection ( veterinarians, farmers, patients suspected of leptospirosis, etc. ) were included. In the global civilian study, there was a striking difference of seropositivity between the wooded (up to 3.12 %) and the non-wooded (down to 0.36 %) provinces of Belgium. How this correlates with ecological factors ( infected rodents, biotope, etc. ) is now being evaluated. Among the military sera, a statistical significant difference (  $X^2 = 10.39$   $p < 0.005$  ) in Hantaan antibody prevalence was found between the so-called fighting forces (1.25 % positive out of 3,904 sera) and the depot & logistic forces (0.49 % positive out of 3,219 sera). The seemingly increased risk of open field activities (higher chance of contact with infected rodents ? ) is to be confirmed by multivariate logistic regression analysis of the various data of this study, which is still going on.

HV-nephropathy should be added to the etiological list of ARF, as a viral condition that is often confounded with leptospirosis.

LONG-TERM TREATMENT OF GENERALIZED AA-AMYLOIDOSIS WITH DIMETHYLSULPHOXIDE (DMSO) : A CASE REPORT. J. Clement, L. De Roy, J. Peremans, B. Van Damme, P. Dubois. Military Hospital Brussels. Anatomopathology U.Z. Leuven.

Some scarce reports in the literature of recent years have suggested the potential benefit of DMSO in the treatment of multiple -organ AA-amyloidosis. DMSO is an organic solvent which can be taken orally, and which has been shown to induce lysis of amyloid fibrils in vitro.

A mean daily dose of 15 gr DMSO in syrup was prescribed during a follow-up period of more than 3 years to a 63 years-old male with generalized amyloidosis, secondary to longstanding bronchiectasis with purulent bronchitis. Renal biopsy showed mesangial amyloid deposits of the AA-type. The nephrotic syndrome (NS) and the chronic renal failure (CRF) at the onset improved quickly and unequivocally under DMSO. A stabilization of the clinical signs of cardiac and hepatic involvement was also noted. Interruption of the DMSO-treatment during 2 months resulted in a prompt recurrence of NS and CRF, which resolved again after restoration of the drug. SAA-determinations were not carried out.

4 Months after the patient has stopped the DMSO on his own initiative, he died in terminal CRF with NS and intractable cardiogenic shock. Post-mortem needle biopsies confirmed massive amyloid deposition in the heart and the liver.

The rapid fluctuations in the clinical response are suggestive of a presumed direct anti-inflammatory effect of DMSO rather than a resorptive action on the amyloid deposits. Except for a slight nausea and unpleasant breath odour, DMSO has little side effects and should be considered in the treatment of AA-amyloidosis.

RELATIONSHIP BETWEEN ALDOSTERONE AND SODIUM, POTASSIUM, AND URIC ACID CLEARANCE IN CIRRHOSIS WITH AND WITHOUT ASCITES

G DECAUX, B HANSON, P CAUCHIE, D BOSSON, J UNGER  
Erasmus University Hospital, Free University of Brussels

We have suggested that cirrhotic patients with high uric acid clearances had an increased effective vascular volume (EVV). This hypothesis was tested by studying the relationship between the excretion of uric acid, sodium, potassium and aldosterone in cirrhosis. In 29 consecutive cirrhotic patients, in whom 17 had ascites, and in a control group, the logarithm of urinary sodium and aldosterone excretion were highly correlated in control ( $r = -0.79$ ,  $p < 0.001$ ) and cirrhotic patients without ( $r = -0.72$ ,  $p < 0.01$ ) and with ascites ( $r = -0.80$ ,  $p < 0.001$ ). The regression line was significantly shifted to the left in the cirrhotic patients ( $p < 0.001$ ). The urinary ratio  $K/K+Na$  was also correlated to urinary aldosterone in controls ( $r = +0.66$ ,  $p < 0.001$ ) and in cirrhotic patients ( $r = +0.77$ ,  $p < 0.001$ ), this regression line was shifted to the right in cirrhosis ( $p < 0.02$ ).

Fractional uric acid excretion was significantly correlated to urinary aldosterone only in cirrhotic patients ( $r = -0.76$ ,  $p < 0.001$ ). These data confirmed the existence of hypoaldosteronism in many cirrhotic patients and are consistent with tubular hypersensitivity to aldosterone and emphasize the major role of the EVV in the control of uric acid clearance in cirrhosis.



## PG. 89

## RADIOISOTOPE CAPTOPRIL TEST IN THE DIAGNOSIS OF RENOVASCULAR HYPERTENSION.

Dupont A.O., Vandenriepen P., Stednik T., Roland J.R., Pieszc A., Six R.O.  
Free Universities of Brussels (VUB-ULB), Belgium.

It has been suggested that Tc-99m DTPA renogram, before and after administration of captopril (CTT), might be helpful in the diagnostic work up of renovascular hypertension. In an attempt to assess its accuracy, we performed CTT in 41 consecutive patients with moderate to severe arterial hypertension. A relative left to right ratio was calculated on the early slope of the corrected renogram and the absolute value of separate glomerular filtration rate was measured by dividing the slope by the corresponding plasma concentration. Intravenous digital subtraction angiography (DSA) was performed in all cases and was completed by intra arterial DSA only when an angioplasty was planned. It revealed bilateral renal artery stenosis (BRAS) in 2 patients and unilateral stenosis (URAS) in 6 patients. The CTT was suggestive for renovascular hypertension (a marked renographic alteration of the affected kidney) in the 2 patients with bilateral stenosis (3 kidneys out of 4) and in 2 out of the 6 patients with unilateral stenosis. Among the true positive CTT, percutaneous transluminal angioplasty (PTA) was successful in 2 patients with URAS. Captopril led to severe renal failure in one patient who had an abdominal aneurysm with involvement of both renal arteries. In the last case with BRAS, angioplasty could not be performed on the side of positive CTT, because of the severity of the stenosis. Among the cases with false negative CTT, one failed to predict the beneficial effect of PTA. In the 4 other cases with URAS, PTA has not yet been performed and only intravenous DSA was available; the significance of the stenosis might therefore be questionable. The relative and the absolute separate kidney function gave the same results, except in one case of BRAS, with unchanged relative function. False positive CTT were encountered in 4 patients. In 1 case, a unilateral and in 3 other cases, a bilateral reduction in renal function was noted after captopril. The left to right ratio remained unchanged in these last 3 cases. Technical errors related to the estimation of the absolute value of separate renal function might explain the false positive results.

## PG. 90

## EXPERIMENTAL NEPHROPATHY, SERUM DISEASE AND POLYUNSATURATED FATTY ACIDS

Enriquez J., Bonilla H.F.  
Hospital Universitario del Valle, Cali, Colombia.

There are many trails about benefits of fish oil (polyunsaturated fatty acids -PUFA) on renal disease, from immune complex form of glomerulonephritis.

We took 24 rabbits and made them immune complex disease by bovine albumin intravenously for 2 months; then we got four groups:

- 1 and 3 inoculation
- 2 inoculation + PUFA
- 4 Control

We made measurement of circulating immune complexes during this period of the time with polyethylenglycol and nephrectomized them at the end of the study and did light microscopy, immunofluorescence and electronic microscopy.

We found higher circulating immune complexes in groups 1, 2 and 3 than 4 and group 2 higher than 1 and 3. ( $P < 0.001$ ).

In the renal biopsy we saw proliferative mesangium higher in groups 1, 2 and 3 than 4 and group 2 higher than 1 and 3. ( $P < 0.02$ ).

In electronic microscopy we saw in the groups 1 and 3 electron dense deposits subepithelias and in the mesangium; too epithelial foot processes were fused and we did not find these changes in group 2.

These findings suggested to us that fish oil (PUFA) have a role in the prevention of immune complex renal disease.

## PG. 91

## COMPARATIVE STUDY OF THE MINUTED INTRAVENOUS PYELOGRAM, THE ISOTOPIC RENOGAM AND THE RENAL ARTERIOGRAPHY IN THE DIAGNOSIS OF THE SECONDARY ARTERIAL HYPERTENSION.

Larrea R., Sollet R., Duarte G., Bringas J., Cedeño M., Martínez C.

Service of Internal Medicine of "Hospital Comandante Fajardo". La Habana, Cuba.

A prospective study was made involving 54 hypertensive patients under 55 years of age, who were subjected to a methodology of arterial hypertension survey that included, among other investigations, the isotopic renogram, the minuted I.V.P. and the Renal arteriography. A comparative analysis of these three tests was performed for the diagnosis of secondary hypertension, basically renal and reno-vascular, resulting the minuted I.V.P. as the test that offers the greatest diagnostic sensitivity, since it showed only two false negative.

The isotopic renogram was of relatively little value for the diagnosis of reno-vascular illnesses, and the Renal arteriography turned out to be of little value in the diagnosis of the chronic pyelonephritis.

## PG. 92

## NEUTROPENIA AND HYPOXEMIA DURING HEMODIALYSIS.

Morales J., Urina M., Velandia G.

Hospital San Ignacio, Bogota, Colombia

It has been established that new hemodialysis filters with Cuprophane membranes activate the complement system by the alternative pathway producing neutropenia and leukoaggregation at the pulmonary vascular bed, which, for some authors, relates with the hypoxemia observed during hemodialysis.

**Objectives Material and Methods:** In order to try to establish the degree of correlation between the leukopenia and hypoxemia during hemodialysis we study prospectively 20 patients with chronic renal failure from January until May 1985 at the Dialysis Unit, using new hollow fiber dialyzers with Cuprophane membrane and dialysis fluid containing Sodium Acetate aside of their other usual components. We collected arterial blood samples predialysis, 15 minutes after starting the procedure and postdialysis, measuring hematocrit hemoglobin, leukocytes with differential count, oxygen pressure (pO<sub>2</sub>), oxygen saturation (SaO<sub>2</sub>), bicarbonate (HCO<sub>3</sub><sup>-</sup>), oxygen alveolo-arterial gradient [D(A-a)O<sub>2</sub>], sodium (Na), potassium (K) and chloride (Cl).

**Results:** Leukocytes and neutrophils showed a significant drop at 15 minutes samples (p=0) with recovery of the initial values at the end of the procedure (NS); pO<sub>2</sub> diminished progressively all the time (p<0.001), and there was an increase in D(A-a)O<sub>2</sub> (p<0.003); pCO<sub>2</sub> showed no variations during dialysis (NS).

**Conclusions:** In this study, we conclude that the leukopenia, attributed to the complement activation with new Cuprophane dialyzers, does not correlate with the hypoxemia observed and that the constancy in pCO<sub>2</sub> values which would be expected to raise, could be explained by an important loss of CO<sub>2</sub> through the dialysis fluid.

**THE NATURAL HISTORY OF DIABETIC NEPHROPATHY ASSOCIATED TO DIABETES TYPE II**

Juan Daniel Ordoñez, MD., PHH.; Roberto Híatt, MD., Ph.D.

We received the charts of all patients with End-stage renal disease (ESRD) secondary to diabetic nephropathy who were referred for hemodialysis in the Kaiser Permanent Health Plan (KPHP) of Northern California between 1979 and 1984. The incidence of ESRD among the approximately two million KPHP members fluctuated between 45 and 78 cases per million per year; 21% of the 670 dialysis patients were diabetics and 46% of the diabetic patients had diabetes Type II. Among juvenile diabetics (Type I), proteinuria occurred 16.9 years after diagnosis of diabetes, azotemia followed 3.4 years after the onset of proteinuria, and ESRD occurred 3.6 years after the onset of azotemia. Among diabetics Type II (adult onset), proteinuria occurred 10.9 years after diagnosis of diabetes, azotemia followed 3.5 years later and ESRD occurred 4.1 years after the onset of azotemia. The proportion of patients with diabetic retinopathy was similar in both groups. In summary diabetic nephropathy seems to occur earlier among diabetics Type II than among Type I; however, once proteinuria has occurred, the course of the renal disease is similar in both types of diabetes.

**NIFEDIPINE VERSUS SODIUM NITROPRUSSIDE IN THE TREATMENT OF HYPERTENSIVE CRISIS.**

Prada C., Pabón J., Ospina C., D'Achiardi R., Torres H. Servicio de Nefrología, Departamento Médico, Hospital Militar Central, Bogotá, Colombia.

The object of this paper is to evaluate the efficacy and safety of Nifedipine as compared with sodium Nitroprusside (N.T.P.) in the treatment of hypertensive crisis.

We treated 27 patients with hypertensive crisis and divided them at random in two groups.

The first group (14 patients) received Nifedipine 10 mgrs sublingually and this dose was repeated in 30 minutes if the diastolic pressure did not drop at least 20 mmHg. If the second dose of Nifedipine was not effective in lowering the diastolic pressure the patient received NTP at standard doses.

The second group (13 patients) received NTP intravenously at a dose of 0.3 mcgr/Kg body Wt/min and the dose of NTP was titrated to obtain a diastolic pressure of 100 mm Hg.

The following table shows the changes in BP during the study period.

	TA inic	TA 15'	TA 30'	TA 60'	TA 120'	TA 180'	TA 240'
Nifed.	210/130	190/119	176/109	167/101	155/94	150/90	147/90
NTP	221/134	208/122	185/113	170/104	159/98	155/93	146/93

Only one patient in the Nifedipine group had to be switched to NTP due to no response to Nifedipine. There were no complications in either group. Side effects were observed in 5 patients in the Nifedipine group and these side effects were mild headache and facial flushing. There were no side effects in the NTP group.

In summary this paper shows that Nifedipine is a good alternative in the treatment of hypertensive crisis.

**LIVING - RELATED KIDNEY TRANSPLANTATION**  
Ramirez J., Mielles L., Latiff A., Vinasco J.

Grupo Transplante, Fundación Santa Fe, Bogotá, Colombia S.A. A kidney from a close relative, especially an HLA-identical sibling, offers an excellent chance of long-term success after transplantation and now using the donor-specific blood transfusions in recipients of single haplo-identical LRD kidneys the graft survival rate is also good. The physical risk to the potential donor is very small and virtually no adverse effect on life expectancy. Other reason of the continuing use of living donors is the current insufficient supply of cadaver organs to fulfill the needs of the renal failure patients awaiting transplantation.

Of equal importance as these considerations are the medical aspects of donor-recipient evaluation and the technical features of the nephrectomy-transplantation procedures.

From April/85 to February/96 we have done 9 kidney transplantations, 5 HLA-identical and 4 single haplo-identical with specific transfusions, obtaining an excellent results at this short time. Four of them presented acute reversible rejection with conventional treatment of Metil-prednisolone and minimal graft irradiation in two, with the observation that three of the recipients were single haplo-identical and only one HLA-identical.

We have not found vascular, urologic, sistemic, gastrointestinal, endocrine or malignant complications. The infections problems have limited to 4 asintomatic bacteriuria and one superficial wound infection by Staphylococcus Aureus. Three patients have developed mild Arterial Hypertension controlled with small doses of Beta-Bloquer. One patient had elevated intraocular pressure that decreased lowering the Prednisone.

The renal function evaluated by serum creatinine in the group range from 1.1 to 1.9 mg/dl with the corresponding Glomerular Filtration (endogenous creatinine clearance) from 56 to 104 ml/min.

**ALLOANTIBODIES HLA-AB TO LYMPHOCYTES T IN 146 PATIENTS WITH DIALYSIS PROGRAM. A COLLABORATIVE STUDY.** Revollo A., Molina T., Quintero D., Carrisoza E., Carreño A., Cueto J., Dachiardi R., López C., Muñoz J., Ramírez X. and Valderrama S. Caja Nacional de Previsión Social Fray Bartolomé de las Casas, Fundación Santa Fé, ISS de Barranquilla, San Pedro Claver Clinics and Militar Central, San Juan de Dios, San José, Samaritana and San Rafael Hospitals. Bogotá - Colombia.

HLA antibodies against potential donor antigens in patients in long term dialysis can affect seriously the survival rates to transplantation, owing to frequent blood transfusions. We study the presence of these antibodies in 146 potential transplant renal receptors in six dialysis centers in this country, using modificate NIH lymphocytotoxicity test against panel of lymphocytes from 30 random normal donors. The percentage reactivity of each serum was calculated from the number of donors lymphocytes on which it had a cytotoxic effect and the antibodies specificity was deduced from the known HLA-AB types of the panel lymphocytes. Defines this reactivity, these sera were tested against T lymphocytes isolated in nylon fiber. The titles were determined from dilutions of the sera. These in addition, were examined for autoreactivity with autologous lymphocytes. This test were performed in the Laboratory of Histocompatibility, Renal Section, Caja Nacional de Previsión in Bogotá. To the end, alloantibodies were observed in 35% of the patients sera; the middle of them moderate to highly sensitised. These antibodies has been present for considerable time, a minority has been of the transient type. Never the reactivity was considered to be due to autoantibodies.

## PG. 97

**DETECTION OF GLOMERULAR BLEEDING WITH PHASE CONTRAST MICROSCOPY.** Revollo A., Quintero D., Carreño A., Pataquiva H. Renal Sections of Nephrology, San Juan de Dios and Caja Nacional de Previsión Hospital. Bogotá - Colombia.

Midstream fresh urine specimens from 100 consecutive patients were examined with Phase-contrast microscopy and observed to 1600 and 2000 augments in order to determine whether the source of the hematuria could be predicted on the urinary red cells morphology as has been informed previously. In all patients definitive diagnosis was made. Glomerular disease (60 patients), with renal function test and renal biopsy as proliferative, membranous, rapidly progressive, and necrotizing, of diverse etiology; post infectious including bacterial endocarditis and pre-eclampsy, eclampsy. The glomerular filtration rate varying from normal to severe impairment and proteinuria mild to severe. 40 patients had nonglomerular lesions, congenital nephrolithiasis, infectious including tuberculosis, benignant and malignant tumors, acute tubular necrosis and catheterization bladder. Dysmorphic red urine cells were seen up to 85% in the sediment of all patients with glomerular disease; in none of patients with nonglomerular disease, renal, pelvic, ureteral, bladder and prostatic. The diversity of red cells morphology in limiting membrane, gave the cellular appearing of spikes, dentated wheel, target cell, faint cytoplasmic extrusion and more frequently as single uniform thickness cellular membrane characterizing the urinary sediment in patients with glomerulopathy. Phase-contrast microscopy examination of red blood cells in the urine is a simple and inexpensive technique that permits an accurate distinction between glomerular and nonglomerular bleeding in adult patients. The selective use of this procedure would be mandatory in the early investigation of patients with hematuria.

## PG. 98

**C3 AND BF PHENOTYPES IN GLOMERULOPATHIES. PRELIMINARY REPORT.**

**Sanclemente E.L., Bernal J.L., J. Enriquez, Santamaría C.L., Sarriento P.L., Zea L.H.** Universidad del Valle and Universidad Javeriana, Cali-Bogotá, Colombia

There is association between complement deficiencies and glomerulonephritis and SLE (immune complex disease). Several complement fractions are involved in the solubilization and precipitation of immune complex. BF.F phenotype is seen frequently associated with idiopathic nephrotic syndrome of childhood. C3F phenotype occurred very often in patients with SLE and membranoproliferative glomerulonephritis.

45 Patients (25 males and 18 females) were studied. The range of ages was 6-69 years old. The diagnosis was performed by histopathological studies (light, immunofluorescence and electronic microscopy). The circulating immune complexes was determined (FEG) along with C3 and BF phenotypes (electrophoresis) and H.L.A. (citotoxicity).

In all patients the CIC were present.

In membranous glomerulopathy and minimal changes disease the C3F phenotype was seen in 25% of the patients. (Controls 1.14%). The BF.F phenotype were observed in the 25% of IgA mesangiopathies. (Control:3.7%). H.L.A. DR4 is present in 100% of the patients with IgA mesangiopathy. (Control:17.7%).

In the other glomerulopathies the frequency of C3 and BF alleles were the same of the control.

## PG. 99

**ELECTROLYTES IN ESSENTIAL HYPERTENSION.**

**E. Sanclemente, LM Zea, J. Enriquez, HF. Bonilla, IM. Otero.** Facultad de Salud, Universidad del Valle, Cali, Colombia.

1. Urinary excretion of Na and K was determined in 709 healthy persons (316 women and 393 men) from 11 cities and 5 country villages in Colombia. The urinary Na was  $173 \pm 28.6$  mEq/24h and urinary potassium was  $46.1 \pm 9.95$  mEq/24h. There was not correlation between Na excretion as an index of Na intake and the incidence of hypertension. One community (Túquerres) exhibit very high salt intake (20-30 g/person/day) with a sodium output of  $264.4 \pm 126.6$  mEq/24h and potassium excretion of  $73.6 \pm 34.9$  mEq/24h and low incidence of hypertension (3%).

2. Studies on red blood cells Na transport from a group of essential hypertension in Cali, disclosed an increase of Na<sup>+</sup>22 efflux and Na-Li countertransport, compared with normals and patients with secondary hypertension.

3.- The potassium supplementation in the diet given to a group of black patients (28) with essential hypertension reduced significantly the levels of blood pressure ( $16.6 \pm 8.4$  systolic and  $11.5 \pm 3.3$  diastolic), decrease the plasma renin activity (Pre-treatment:  $5.29 \pm 2.6$  ng/ml/hour. Post-treatment:  $3.2 \pm 2.4$  ng/ml/h. Reduction:  $2.02 \pm 1.3$ ,  $P < 0.001$ ), increase of the plasma aldosterone (Pre-treatment:  $71.8 \pm 5.3$  pg/ml. Post-treatment:  $138 \pm 70.8$  pg/ml. Increment:  $66.2 \pm 68.9$ ,  $P = 0.2$ ).

## PG. 100

**RESPIRATORY FUNCTIONAL STUDY WITH CORPORAL COMPUTARIZED PLETHYSMOGRAPHY, CO DIFFUSION (DCO) AND ARTERIAL GASES IN PATIENTS WITH CHRONIC RENAL FAILURE (CRF) IN HEMODIALYSIS PROGRAM (HD).** Severiche D., Caballero A., Castillo A., Silva E. Hospital de la Samaritana, Pneumology División Clínica Caja Nacional de Previsión Bogotá, D.E.

A prospective clinic study was carried out in 9 patients with the aim of pricing the respiratory function in the CRF and its modifications with the HD. Any of them was smoker and it didn't exist background of previous pulmonary pathology. All patients were practiced plethysmography and the next parameters were measured: FVC, FEV1, FEV1/VC, FEF25-75, FEF75-85, MEF50, MEF75, Raw, ITGV, RV, TLC, and DCO one hour before and after the HD; arterial gases were measured at 0, 1, 2 hour after beginning the HD. The significance  $P < 0.10$ . The results obtained were these: Before HD were normal FVC, TLC y DCO. There was increase of Raw ( $P < 0.005$ ) RV ( $P < 0.05$ ) RV/TLC ( $P < 0.005$ ), it existed decrease of FEV1 ( $P < 0.05$ ) FEF25-75 ( $P < 0.005$ ) FEF75-85 ( $P < 0.010$ ) MEF75 ( $P < 0.00010$ ). After the HD some improvement was gotten from the studied parameters without becoming significative by statistics. During the first hour of HD la PaO<sub>2</sub> decreased ( $P < 0.05$ ). The DCO was normal and even it improved after the HD this was no significative.

We concluded that in the patients with CRF in this study, existed an obstructive failure at airway levels, whose physiopathologic mechanism may be peribronchiolar edema. The small improvement seen in these patients after the HD, could be because this was not efficient to remove the liquid excess or the presence of bronchial spasm, for increasing of the vago tonus, which it is a farther study it must be evaluated if it improves by using anticholinergics. During HD, the hipoxemia may be due to the alveolar hypoventilation, for the pharmacological effect of the acetate dialysis or to the microembolism.

## PG. 101

## PERITONEAL DIALYSIS IN PATIENTS WITH OBSTRUCTIVE NEPHROPATY CAUSED BY CANCER.

Authors: Valderrama S., Guerra G., Quijano H., Rivera F.

Section of Internal Medicine Instituto Nacional Cancerología. Bogotá, Colombia.

A total of 66 patients with obstructive nephropaty as a consequence of cancer, were analyzed. Of those studied 50 were women (79.4%) and 13 were men (20.6%), with ages in the range of 3 and 80, being the mean 47 years.

The patients studied were distributed according to primary disease in the following manner: cervix carcinoma IIIB: 68.3%, prostatic carcinoma: 9.5%, bladder carcinoma: 3.2%, lymphoma: 3.2%, and other tumors (seminoma, ca of testis, ca of rectum): 1.6%.

All of the patients showed great masses in the pelvic area; the greatest ones being present in patients with cervix carcinoma.

Every one of the patients was treated with radiotherapy over the tumor area with a mean dose of 2.464 rads ± 17.50. Of all the patients in the study, 15.9% had been subject to abdominal surgery.

Every patient was subject to peritoneal dialysis with the usual technique; with a mean of two catheters and 67.3 ± 48 exchanges for each one. The most outstanding complication was the obstruction of some of the catheters, but no morbidity was caused by infection.

This work clearly shows that the peritoneal dialysis procedure can be achieved in patients with obstructive nephropaty caused by cancer or patients with abdominal tumors, history of abdominal surgery or concurrent radiotherapy.

## PG. 102

## RENAL GAMMAGRAPHY AND GLOMERULAR FILTRATION RATE FOR EVALUATION OF RENAL FUNCTION IN PATIENTS WITH OBSTRUCTIVE NEPHROPATY CAUSED BY CARCINOMA OF CERVIX III B.

Valderrama S., Ahumada J., Constantín E., Zamora H.

Secciones de Medicina Interna, Medicina Nuclear y Radio-

terapia. Instituto Nacional de Cancerología. Bogotá, Colombia.

A total of 48 patients with obstructive nephropaty caused by cervix carcinoma III B. were analyzed. The mean age was 48 years and they had all been subject to concomitant peritoneal dialysis and radiotherapy.

Routine laboratory tests, renal sequential gammagraphy and glomerular filtration rate were performed. For the latter tests, labeled DTPA and TC-99 m were used, with only one venous puncture and obtaining results by computer technique.

The gammagraphic and filtration rate control were made one week before and one month after dialysis and radiotherapy.

The glomerular filtration rate was performed in 50% of the patients and they displayed remarkable improvement. The mean filtration was 35 ml/min/1.73 m<sup>2</sup>, with a minimum of 20 ml/min/1.73 m<sup>2</sup> and a maximum of 98.5 ml/min/1.73 m<sup>2</sup>.

Renal sequential gammagraphy revealed that the parenchymal damage had diminished and pielouretral dilatation had become less important.

This work shows clearly that these isotopic methods are very useful in the evaluation of the renal function of patients with obstructive nephropaty caused by cervix carcinoma III B.

## PH. 103

## RHABDOMYOLYSIS OF THE ORBIT MUSCLES : A RARE CAUSE OF UNILATERAL EXOPHTHALMOS

Arad J., Liron M.

Dept. of Medicine 'E', Rokach Hospital, Tel-Aviv Medical Center and Sackler Medical School, Tel-Aviv University, Tel-Aviv, Israel.

Rhabdomyolysis, a well known complication in patients who were immobilized for a long time, is characterized by swelling of muscles in pressure areas and by a marked increase in muscle enzymes and the appearance of myoglobinuria which may be accompanied by acute renal failure.

A 61 years old man who had attempted suicide by Alcohol and Amitriptyline, was found stuporous in the prone position about 18 hours later. The presenting picture was of unilateral exophthalmos, cheimosis, complete ophthalmoplegia and one eye blindness. CPK was 1500 U., all of it as MM isoenzyme, no myoglobin was found. CT scan of the orbit showed protrusion of the Rt. eyeball, with marked edema of the orbit muscles. During the following months some of the signs resolved gradually. The remaining sequelae were : blindness, minor paresis of eye movements, fixed mid position non reacting pupil, hypoesthesia of frontal nerve area, hypohydrosis of frontal area and a pale retina.

This case shows that rhabdomyolysis of the orbit muscles may be a cause of unilateral exophthalmos which may cause a severe irreversible damage to the content of the orbit.

## PH. 104

## PILOT NEUROEPIDEMIOLOGICAL SURVEY-DISTRACCION (GUAJIRA), JULY, 1985.

Daza J., Galán R., Gómez G., Morillo L., et. al.

Servicio de Neurología, Departamento Médico, Hospital Militar Central, Bogotá, Colombia.

The authors made a survey based on the criteria of the OMS (World Health Organization) in a quest for neurological findings. The population investigated were 475 families with 2,578 people, predominantly of low income (75%) and half-breed (83%); 53% were females. Out of 278 subjects selected by history the patients examined (83,26%) 30 were considered as normal, with a positive predictability of 83%. As for the most frequent diagnoses (related to 1,000) were: migraine 52,3 ; epilepsy 12,8 ; peripheral neuropathy 7,38 ; Psicomotor retardation or mental illness 5,43 ; language disorder 4,65 ; Cerebrovascular disease 3,49 ; other neurological disorder 3,87. Those findings show how important are these type of investigations and give a pattern for future work in the prevention, control of patients and rehabilitation.

## PH. 105

## EVALUATION OF CLINDAMYCIN IN COMBINATION TO AMODIAQUINE OR QUININE IN CHLOROQUINE RESISTANT P. FALCIPARUM INFECTIONS.

C. Espinal, C. López, M. Restrepo, E. Moreno de M.  
Clínica Cuéllar - CINMET, Instituto Nacional de Salud, Bogotá  
Laboratorio Departamental, Medellín.

One randomised trial was conducted to examine the activity of 300 mg. of clindamycin every 12h. during 5 days in association to 1500 mg. of amodiaquine in 3 days or oral quinine 2 g/ day for 3 days, in 26 and 31 patients respectively. Patients with signs of severe disease or high parasite counts were excluded. Patients were followed for a minimum of 28 days post-treatment. In-vitro tests to chloroquine amodiaquine, mefloquine and quinine were performed in all patients.

Results of in-vitro tests showed 90% resistance to chloroquine, 22.5% to amodiaquine and 29% to mefloquine, drug which has not been introduced into Colombia, 38.7% of the infections were resistant in-vitro to 2 or 3 antimalarial drugs. In vivo results showed that both associations were equally effective in the treatment of chloroquine resistant falciparum malaria (CRFM).

1/26 (2.5%) amodiaquine-clindamycin treatment failures and 2/31 (4.8%) treatment failures in the quinine-clindamycin group were observed during the study. Side effects such as diarrhea, vomiting, tinnitus, were more present in the quinine-clindamycin group.

Drug combinations and not monotherapy is recommended for treatment of falciparum malaria in Colombia to prevent the rapid dispersion of resistant falciparum parasites.

## PH. 106

## ATAXIA TELANGIECTASIA WITH COLONIC CANCER AND SKELETAL DEFORMITIES:

Hurtado M.A.

Hospital Universitario de La Samaritana

An 18 year old male presented with prolonged mucus diarrhea, weight loss, abdominal distention and fecal vomiting. He had previous clinical findings typical of ataxia-telangiectasia, developing progressive motor ataxia, conjunctival telangiectasias and severe muscle wasting from early childhood. His older sister (20) presents the same disease. On admission, a severely malnourished and growth retarded patient with the above findings was seen, presenting also evident limb deformities, abdominal distention and pain, visible peristalsis, and augmented bowel sounds. Plain abdominal film, barium enema and abdominal CAT scan were indicative of an obstructive right colonic cancer. Biopsies were not taken on colonoscopy. HLA of the patient and his sister showed no specific pattern. Protein immunoelectrophoresis evidenced low levels of gammaglobulins in the patient's serum, with low IgA, normal IgE, and high levels of IgM. Helper T lymphocytes were 31% of total count and Suppressor T lymphocytes were 21%. Skin tests were all negative at 72 hours. Cariotype studies showed endoreduplication in both patient and sister's cells, finding often associated with neoplasms. There was no clinical evidence of the syndrome among other family members. Ataxia-telangiectasia, inherited as an autosomic trait, is rarely seen and recognized in our general hospitals, and has not been described in association with skeletal deformities. Immunodeficiency is always present, and epithelial malignant neoplasms are frequent among late survivors as is the case here presented. Recurring pulmonary and sinus infections, prominent in many cases, were not found in this patient or his family.

## PH. 107

## NON-TRAUMATIC RHABDOMYOLYSIS. STUDY OF 14 CASES

Fernandez Miranda C., Rubio Garcia R., Gutierrez Rivas E., Palacio Perez-Medel A., Dominguez Ortega L., Ramirez Diaz J.  
Departamento de Medicina Interna, Hospital 1<sup>o</sup> de Octubre.

Rhabdomyolysis (RM) is a clinical and laboratory syndrome which is a result of the injury to the skeletal muscle with a loss of muscle cells into the plasma which may or may not be accompanied by myoglobinuria.

We have studied 14 cases of non-traumatic RM. CPK values greater than 600 UI/l ( $N \leq 150$  UI/l) were considered necessary to be included in the group under study, having previously rejected myocardia and vascular-brain damage as a cause. The causes for the RM were: 2 cases of excessive muscular activity, heroin use with hyperpotasemia in 3, 2 cases of Legionnaire's Disease, 2 cases of Sepsis, 1 case of viral infection, 1 case of hypernatremia + hyperthermia, hypopotasemia in 3 (Type I distal tubular acidosis in the first, diuretics in the second and iatrogenic hyperaldosteronemia in the third). Ages ranged from 14 to 79 years with a predominance of males (8/14). The CPK was between 730 and 176,000 UI/l. In all the cases there was a high rate of LDH, GOT & GPT. 7 cases presented nonoliguric renal insufficiency, with a serum creatinine ranging between 2.2 and 8.9 mg/ml. Of these 3 had hyperpotasemia, 3 hyperuricemia, 3 hypocalcemia, 1 hyperphosphoremia, with no parameter alterations in those patients without renal insufficiency. The myoglobinuria conducted in 6 patients was positive in 4, of which only 1 had renal failure. A neurophysiological study was done in 4 cases where 2 showed miopathic results in both the scapular and pelvic areas and the other 2 normal results. The muscular biopsy performed on 1 of the latter was normal. The prognosis was favourable except in 1 patient who died of Septic Shock. There was a spontaneous resolution of the renal insufficiency with the decline in muscular enzymes, though 1 case required hemodialysis. In 1 patient the miopathy of both the scapular and pelvic areas persisted for 2 months. We believe that RM is not an infrequent entity and its existence must be suspected when several predisposing factors are present since a large percentage of cases develop renal insufficiency.

## PH. 108

## CEREBRAL MALARIA. EVOLUTIONARY THERAPEUTIC CLINICAL SURVEY IN 20 PATIENTS.

Latour R., Larrea R., Sollet R.

Service of Internal Medicine of "Hospital Comandante Fajardo". La Habana, Cuba.

The Cerebral Malaria is an acute diffuse encephalopathy which occurs as a complication in less than 2% of patients suffering from an infection by Plasmodium Falciparum, being almost exclusive of this variety, with a death rate of 30-60%.

Many therapeutical methods have been tested for the treatment of this disease.

Study of patients admitted to "Hospital Universitario" of Luanca from May 1980 to January 1982, with the object of evaluating a therapeutical method based on Chloroquin 1 ampula IM every 8 hours, Dexamethasone 25-30 mg. a day IV in four subdoses during 3 days; Furosemida 100-150 mg. a day IV in 4 subdoses during 3 days; Dextran-40 500 ml. every 12 hours for 3 days and symptomatic measurements.

The therapeutical method with a powerful esquizotocida IM turned out to be effective with only a 5% death rate and less toxicity.

## PH. 109

**ELECTROPHYSIOLOGIC AND CLINICAL CORRELATION STUDY IN DIABETIC PATIENTS.****Morillo C.A.**

Departamento de Medicina Interna, Universidad Javeriana, Hospital San Ignacio, Bogotá Colombia.

This study was performed to determine the clinical and electrophysiologic correlation in diabetes Mellitus (D.M.) and to try to establish a relation between glucose blood fasting levels and peripheral nerve studies. The duration of D.M. was correlated with the peripheral nerve studies performed.

28 diabetic patients without renal compromise, alcoholism, or ingestion of any drug known to be associated with peripheral nerve dysfunction were selected.

**RESULTS: Mixed Sensory-Motor Neuropathy 50%**

Predominantly Sensory Neuropathy 46.1%; Large Fiber 11.5%

Mixed Large-Small Fiber 19.2%, Small Fiber 15.3%.

Predominantly Motor Neuropathy: 3.8%. All the nerve studies except ulnar motor nerve conduction velocity (mncv) and the distal latency of the posterior tibial nerve were abnormal when compared with the normal values of the EEG and EMG laboratory of the hospital ( $p < 0.0001$ ). There was no correlation established between the nerve studies performed and the fasting blood glucose levels, except with the mncv of the posterior tibial nerve ( $p < 0.05$ ,  $r = 0.66$ ). A statistically significant correlation was found between the distal latency of the facial nerve and the duration of D.M. ( $p < 0.001$ ,  $r = 0.64$ )

**Commentary:** The present study shows a close clinical and electrophysiological correlation. Abnormal peripheral nerve studies were documented in 26 patients (92%). The most frequent clinical finding was glove and boot hypoesthesia (36%). A close correlation, that was statistically significant ( $p < 0.001$ ) between distal facial latency and duration of symptoms was observed. The analysis suggests a prolongation of distal facial latency after the first year of initiation of D.M. This finding presents the possibility of using distal facial latency as an indicator of D.M. duration. A further study is considered necessary to substantiate this finding with a larger population sample.

## PH. 110

**INCREASED AUTONOMIC NERVOUS ACTIVITY IN GUILLAIN-BARRÉ SYNDROME**

Yamamoto T., Shimazu K., Tamura N., Oh-iwa K., Kim H., Onoto K., Onoda A., and Hamaguchi K. (Department of Neurology, Saitama Medical School, 38, Moro-Hongo, Moroyama, Irumagun, Saitama, 350-04, Japan)

Clinical signs and symptoms suggesting autonomic nervous dysfunctions are frequently observed in patients with Guillain-Barré syndrome (GBS). The present study was aimed at quantitatively investigating the autonomic functions in GBS.

**SUBJECTS & METHOD**

The subjects were 17 patients with GBS (40.3 ± 13.8 YO). The autonomic functions were repeatedly investigated in the patients, who were divided into 3 groups based on their intervals after the onset; group I was 17 cases with the interval within one month after the onset, group II was 6 cases with the interval of one to two months, and group III was 4 cases with the interval beyond two months. Hemodynamic functional tests were carried out under the continuous measurements of blood pressure, pulse rate, and plasma catecholamines were also measured.

**RESULTS**

(1) Sympathetic nervous function: The degree of reflex hypertension in the cold pressor test was significantly higher in the group I and II compared to the controls ( $p < 0.05$ ,  $p < 0.001$ ) and higher in the group II compared to the group I ( $p < 0.001$ ). The level of plasma norepinephrine was significantly higher in the group I than the other groups and the controls ( $p < 0.02$ ,  $p < 0.02$ ,  $p < 0.05$ ). (2) Parasympathetic nervous function: The degree of reflex bradycardia in Aschner's test was significantly higher in the group I and II compared to the controls ( $p < 0.05$ ,  $p < 0.05$ ).

**CONCLUSION**

The above results suggest that the patients with GBS have increased sympathetic and parasympathetic nervous activities, and the former returns to the normal level with the passage of time.

## PH. 111

**CONDUCTION BLOCK BY SERUM FROM PATIENTS WITH GUILLAIN-BARRÉ SYNDROME (GBS)**

Fotes, E., Hayer, R.F., Toyoshima, S., Koski, C.L. Neurology Dept., University of Maryland Hospital, Baltimore.

Intra-neural injection of serum from patients with GBS has been reported to produce conduction block and demyelination. The humoral component which mediates myelin damage has not been well defined. In this study, ability of GBS serum to produce focal nerve conduction defects was correlated with serum levels of complement fixing anti-peripheral nerve myelin antibodies. Sera were collected serially in 7 patients with GBS, and were injected into rat tibial nerve, with added GFS (Guinea Pig Serum) as a source of complement activity. Control lateral injections of normal human or GFS served as control. Nerve conduction studies were made prior to injection, within 1 hr. of injection, and at 4 and 7 days. No animals presented weakness except that related to peroneal nerve section. Local conduction block was not observed in control nerves. Motor conduction velocity and compound muscle action potential (CMAP) duration ratios (expressed as a ratio on proximal and distal stimulation) with high antibody titers in the injected sera were not different from controls. A decrease in the CMAP amplitude ratio was however seen with GBS sera at 4 days (0.73 ± 0.14 vs. 0.84 ± 0.14, control;  $p < 0.01$ ), and this was more evident with sera having high titers (0.70 ± 0.14 vs. 0.83 ± 0.13;  $p < 0.01$ ) than with low titers (0.82 ± 0.13 vs. 0.86 ± 0.12). No difference was observed using stored frozen vs. fresh GBS sera, or with different dilutions of GFS. This study shows that a partial conduction block is produced in rat nerve injected with GBS sera having a high titer of anti-PNM Ab and suggests that complement and Ab play a role in peripheral nerve demyelination as indicated by conduction block.

## PF. 81A

**A NEW GLUCOSE-6-PHOSPHATE DEHYDROGENASE VARIANT: G-6-PD VILLASALTO.**

Frigerio R., Olla N., Lovicu M., Sole G., Passiu G\*, Pitzus F\*, Carcassi U.E.F.

Thalassemia Research Institute - National Research Council, Cagliari, Italy. \*Institute of Clinical Medicine, University of Cagliari, Italy.

The genetic variability of human glucose-6-phosphate dehydrogenase (G-6-PD; E.C.1.1.1.49) is remarkable. Over 300 structural variants of this protein have been described so far. The Italian island of Sardinia is well known as one of the areas with the highest rate of G-6-PD deficiency. On geographical grounds and from biochemical characterization of a few cases, it has been assumed that the underlying variant is G-6-PD "Mediterranean". However, no systematic analysis of genetic heterogeneity has been carried out in the South Sardinia population. The present report describes a new variant, for which the name "Villasalto" is proposed, belonging to class 4 of the usual tabulation.

The propositus, W.L., a 27 years old Sardinian male, was casually observed during a screening program. He was well, never presented signs of anemia, never was jaundiced. Activity of his G-6-PD was found to be 7.4 I.U./g. Hb (normal:  $12.1 \pm 2.0$  I.U./g. Hb).

Routine hematological tests were performed using standard techniques. Assay of G-6-PD was carried out as recommended by I.C.S.H.; characterization of G-6-PD was performed according to the W.H.O. criteria on purified preparations. The properties of the G-6-PD purified from the propositus showed: residual activity = 61%; Km G6P = 55.9  $\mu$ M; Km NADP = 4.35  $\mu$ M; utilization of 2d-G6P = 11%; optima pH = 6.5-9.5; normal electrophoretic mobility. The mild defect in activity associated with this variant, coupled with the complete absence of acute or chronic hemolysis, allow us to include it in class 4 of the usual tabulation.

Yogo H. . . . . PA 25  
Yokota O. . . . . PA 11

Z

Zamora H. . . . . PH 102  
ZEA L.M. . . . . PG 98 - PG 99  
Zubieta M. M. . . . . PK 136