

Wednesday July 30

INTERNATIONAL CONVENTION CENTER

ROOM: SALON BOGOTA

POSTER PRESENTATION

(P. 1 – P. 60)

12:30 – 14:30

Coordinators:

ARECIO PEÑALOZA, COLOMBIA
IGNACIO MALDONADO, COLOMBIA
VICTOR CAICEDO, COLOMBIA

PA. 1

MYOCARDIAL REVASCLARIZATION WITH INTERNAL MAMMARY ARTERY PRE AND POST SURGICAL EVALUATION WITH ULTRASOUND.

Gabrera Camilo, M.D., F.A.C.C., Vargas F., M.D.,
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The usage of the internal mammary artery for myocardial revascularization in patients with coronary artery disease who require surgical treatment is the first choice operation loop in the Cleveland clinic has reported a big group of patients with 98% of permeability after fourteen years and only 55% of permeability when safenous vein was used.

In the Centro Médico de Los Andes this technique was used in the majority of the patients who required myocardial revascularization 79 men and 11 women, average age 48 years. All of them had symptoms and presented with obstruction of more than 70%. The internal mammary artery was used to bypass obstructions of the anterior descendent artery, branches of the circumflex and internal right mammary artery to bypass the obstruction of right coronary artery and branches of the circumflex. The preoperative elevations of the internal mammary artery was done measuring de velocity of the blood flow of the artery using computerized doppler in 23 patients; the doppler permeability of the artery correlated with the coronary and internal mammary artery angiography which was carried out in seven patients.

The objective of this study was to report an experience with the usage of the internal mammary gland for myocardial revascularization by itself or in combination with internal safenous vein. We also wish to report the results of the computerized doppler for preoperative evaluation and as a method to determine the permeability of the artery.

PA. 2

HYPERTROPHIC CARDIOMYOPATHY WITH PREDOMINANT OBSTRUCTION OF RIGHT VENTRICULAR OUTFLOW TRACT.

Cacciapuoti F., Spiezia R., Gentile S., Verza M., D'Avino M., Varricchio M.

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Hypertrophic cardiomyopathy (HCM) shows variable morpho-functional patterns. The most frequent ones involve interventricular septum and/or left ventricular wall with or without signs of dynamic obstruction of left ventricular outflow tract.

In the present study we refer on three young patients (2 M and 1 F) affected by HCM with obstruction of right ventricular outflow tract. The clinical picture was characterized by palpitations, dyspnea on effort and episodes of ventricular tachycardia. The ECG showed biventricular hypertrophy in one patient and left ventricular hypertrophy with right bundle branch block in the other two. M-mode and cross-sectional echocardiography showed a marked hypertrophy of interventricular septum with an almost complete obstruction of subvalvar pulmonary root. At pulsed Doppler echocardiography examining a turbulent flow and a mid-systolic notch at level of right outflow tract were present, while there was no obstruction in the sub-aortic root. Hemodynamic examination revealed a significant pressure gradient between pulmonary artery and right ventricle (60 mmHg in one and 80 and 95 mmHg in the other two), absence of systolic gradient in subaortic tract and increased left ventricular pressures.

These findings suggest that in our patients the obstruction of subvalvar pulmonary root are probably secondary to a widespread involvement of left ventricle causing an increased left ventricular pressures and subsequent growth of septum into right ventricle. In our opinion therefore the development of such a picture has a poorer prognostic significance with respect to those forms with subaortic root involvement alone.

PA. 3

RANDOMIZED SURVEY OF BLOOD PRESSURE-AT DISTRACCION (GUAJIRA), JULY 1985.

Daza J., Torres M., Galán R., Ariza S., et. al.
Servicio de Neurología, Departamento Médico, Hospital Militar Central.

In the small town of Distraccion (Guajira, Colombia) the authors took blood pressure at random in the population older than 15 ys. of age. They considered as indicative of hypertension a systolic finding of 160 mms Hg or above and diastolic of 90 mms Hg or above. The population examined was of 908-85% half-breed with family history of hypertension in 45% and 25% of them were smokers. The incidence of hypertension was 29.8%, 68% of them considered as mild hypertensives. Both diastolic and systolic pressures increased with age. In general pharmacological treatment was inadequate.

PA. 4

CHANGES OF MYOCARDIAL MICROPERFUSION DURING INTRAVENOUS AND ORAL TREATMENT WITH NIFEDIPINE IN CORONARY ARTERY DISEASE.

Hermann W. Eichstaedt, Monika L. Gutmann, Mathias Langer, Roland Felix and Horst Schmutzler

Departments of Cardiology and Radiology, University Hospital Berlin Charlottenburg, Alemania federal

25 patients (52±15y, 24m, 1 fm) were investigated after the angiographic diagnosis of coronary artery disease without therapy, under 5mg nifedipine i.v., and after 4 weeks oral treatment with 60 mg/day using exercise testing and tomoscintigraphy. Exercise tolerance increased after therapy. by $\bar{x} = 30$ W, ST-depression decreased by $\bar{x} = 0.1$ mV. Computer-assisted circumferential impulse-mapping with longitudinal emission tomography showed an impulse density of $\bar{x} = 312 \pm 56$ counts per matrixpoint (cts/mtx), whereas healthy segments showed 536 ± 32 cts/mtx. Immediately after i.v. application of 5 mg nifedipine the tomoscintigraphic procedure was repeated. The former ischemic areas showed an impulse increase up to $\bar{x} = 409 \pm 45$ cts/mtx ($p = 0.005$), also healthy segments showed an additional increase. After 4 weeks of oral therapy with 3×20 mg/day no further significant increase of impulse density compared to i.v. application could be quantified. So an increase of myocardial microperfusion under therapy with nifedipine can be proven by the method of longitudinal emission computed tomography.

PA. 5

REGRESSION OF LEFT VENTRICULAR HYPERTROPHY UNDER THERAPY WITH THE ACE-INHIBITOR RAMIPRIL - A STUDY WITH MAGNETIC RESONANCE IMAGING.

Hermann W. Eichstaedt, Roland Felix, Mathias Langer and Horst Schmutzler.

Departments of Cardiology and Radiology, University Hospital Berlin-Charlottenburg, Alemania federal.

We investigated 30 patients with arterial hypertension (diastolic pressure 95 - 120 mmHg) and 10 healthy controls before and after 3 months of treatment with the ACE-inhibitor Ramipril (HOE 498). Measurements of blood pressure, blood chemistry, ECG-criteria, echocardiography and MR-tomography were examined. Hypertensive patients showed R-wave amplitudes of ≥ 2.6 mV in leads V4 - 6, septal hypertrophy in echocardiography of ≥ 14 mm and the same dimension of wall thickness in the transversal (axial, Z-plane) plane of MR-tomography. Our patients showed $\bar{x} = 18.5$ mm diameter of the septum in the midpoint of the longitudinal septal axis.

22 out of 30 patients showed a decrease of septal diameters in echocardiography of $\bar{x} = 4.21$ mm and in MR-tomography of 4.37 mm after oral treatment with 5 mg/day HOE 498 over 3 months. MR-imaging showed the additional parameter of decrease of signal intensity, which was $\bar{x} = 839 + 207$ arbitrary units (a.u.) before, and $778 + 192$ a.u. after treatment ($p < 0.001$).

8 patients did not respond therapy and showed only insignificant hypertrophy regression after prolongation of treatment up to 6 months under an intensified dosage of 10 mg/d.

PA. 6

IMAGING OF ACUTE MYOCARDIAL INFARCTION BY MAGNETIC RESONANCE USING THE RELAXATION AGENT GADOLINIUM-DTPA.

Hermann W. Eichstaedt, Roland Felix, Mathias Langer, Wolfgang Rutsch and Horst Schmutzler.

Departments of Cardiology and Radiology, University Hospital Berlin-Charlottenburg, Alemania federal.

We selected 26 patients (19 m, 7 fm; 54 \pm 14 y) by angiography in the stage of acute myocardial infarction. Recanalization of infarct-related vessel was unsuccessful applying streptokinase or balloon dilatation. So infarct was well defined by selective angiography, ventriculography, clinical and electrocardiographic signs, enzyme curves and tomoscintigraphy. 11 out of 26 pts were clinically stable, so MR-imaging could be investigated in an interval between 5 and 10 days after acute infarct. 3 cases could be imaged before the 21st day and 12 cases were examined later than 21 days after the event.

We used a Magnetom from Siemens with a field strength of 0.35 and 0.5 tesla. Imaging sequences were TE 35 and 70 msec and TR 400 - 1000 msec. Signal intensity was measured in the area of infarct and surrounding myocardium before and after application of 0.1 mmol/kg Gadolinium-DTPA. In acute infarcts signal intensity increased from native scans ($= 1$) to an intensity of $1 : 1.686 + 0.21$ after Gadolinium ($p < 0.001$), in subacute infarcts from 1 to $1 : 1.313$ (n.s.) and in chronic infarcts from 1 to $1 : 0.968$ (n.s.). Gadolinium seems to be a "hot spot marker" in MR-imaging of acute myocardial infarctions.

PA. 7

ANALYSIS OF THE ARRHYTHMIAS WHICH APPEARED DURING 1000 ERGOMETRIC STUDIES DONE ON TREADMILL.

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We analyzed 1200 Ergometric consecutive studies done on treadmill during 3 years starting March 1981.

We excluded all those which presented problems for electrocardiographical analysis such as conduction alterations, use of medications, or valvular disease. The sample rounded to 978 persons with an average age of 43 years. 595 (60.83%) were healthy persons between 20 and 69 years of age (Group A) and 383 (39.16%) were suspicious of having or proven cardiovascular disease with age range between 20 and 70 years. (Group B); 3% of the persons underwent coronary selective angiography and contrast ventriculography which validated the results. Using the Bruce protocol a treadmill exercise test was performed in 200 women (29.45%) and 778 men (79.55%).

To group A belonged 68 (6.95%) of the 187 (19.12%) positive test for coronary artery disease ($P < 0.001$), there was no difference between heart rates and the achieved results in each group ($P > 0.05$). Nor the appearance of arrhythmias, nor the degree of danger was determined by the range of age. The result of the treadmill exercise test was ($P > 0.05$). The double product correlated in direct form in both groups with the positivity of the test ($P < 0.001$). Finally the functional capacity in both groups correlated inversely with the appearance of arrhythmias ($P > 0.05$). Our results suggest that the usage of exercise testing is important in the induction of arrhythmias and their analysis in patients who undergo this test.

PA. 8

THE VALUE OF HOLTER MONITORING FOR IDENTIFICATION HYPERTROFIC CARDIOMYOPATHY PTS AT HIGH RISK OF SUDDEN DEATH.

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Dept. of Gerontology, I Faculty of Medicine, Naples (Italy)

To determine the value of Holter monitoring (HM) for identification of pts with hypertrophic cardiomyopathy (HC) at risk for sudden death we collected 48 h-HM data from 40 consecutive HC pts (24 non-obstructive and 16 obstructive; mean age 35 years). Patients had baseline HM after all antiarrhythmic drugs were discontinued for 5 half-lives. The HM demonstrated in 28 pts (70%) frequent ventricular premature complex (30/h VPCs), pairs, episodes of non-sustained and/or sustained ventricular tachycardia (NSVT, SVT) (Group A); in 12 pts (30%) only occasional (30/h VPCs) and uniform VPCs (Group B). Thus among HC pts only those in group A were considered to be at risk for sudden death and only they were treated with Amiodarone, Verapamil, Beta-blockers. All other pts (Group B) received no drugs. Clinical outcome was assessed 3 years after the initial 48 h HM. Seven pts (17.5%) have died all suddenly. The pts who died were 5 of 28 (14%) of group A and 2 of 12 (16.5%) of group B (n.s.).

In summary: 1) high grade ventricular arrhythmias are commonly found on 48 h HM in pts with HC; 2) the finding of high grade ventricular arrhythmias on HM does not identify a subgroup of pts at high risk for sudden death; 3) HM findings do not predict clinical outcome

PA. 9

EFFICACY OF ENALAPRIL EVALUATED WITH DIFFERENT METHODS OF BLOOD PRESSURE READINGS AND ANALYSES. G. Germanò, S. Damiani, A. Ferrucci, P. Nardi, R. Cassone, G. Calcagnini. Università "La Sapienza"-Roma-Italy

We adopted an open protocol to study the effect of the enalapril, in a 20-40 mg dose or in association with a diuretic, in 10 moderately hypertensive subjects (5 men and women aged between 36 and 58). The blood pressure changes obtained by sphygmomanometric method are compared with a 24-hour ambulatory monitoring (ABPM) and with a 3-hour semi-basal automatic recording (3-BPR). Examining the blood pressure data obtained before and after the drug administration in each subject we observed a percentage reduction in the mean values both in ABPM (between 6.7 and 22.1% for the systolic, 8.8 and 26.6% for the diastolic) and in 3-BPR (between 7.2 and 23.9%, 3.3 and 30.1%). The mean standard deviations and the variation coefficients did not show significant variation. We used also the Fourier series to better describe blood pressure variability and the moving average to eliminate the casual irregularities. The pooled data showed identical profiles in ABPM and 3-BPR with a lowering translation of treatment patterns recorded. In particular the ABPM hourly day values reduction is highly significant both for systolic and diastolic blood pressure being included between $p < 0.003$ and $p < 0.001$. Such a behavior is attenuated during the night (the significance levels are included between 0.08-0.2 for the systolic and 0.02-0.4 for the diastolic blood pressure). No change for heart rate was noticed.

PA. 10

EXPERIENCE WITH THE FIRST CARDIAC TRANSPLANT IN COLOMBIA Group of cardiologist, surgeons and anesthesiologist of the "Centro Cardiovascular Colombiano, Clínica Santa María" and the transplant group of the "Hospital de San Vicente de Paúl y Universidad de Antioquia", Medellín - Colombia.

Thirty six years old male, cigarette smoker, hyperlipidemia with strong family history of coronary artery disease. Symptoms developed during the last four years, having myocardial infarction in two occasions, compromising the antero-lateral and posterior aspects of the heart. Severe progressive angina at rest with complete incapacity during the last four months. Coronary angiography showed complete proximal obstruction of all vessels except the first obtuse marginal that showed proximal 50% obstruction. Ejection fraction was less than 20%. On December 1st - 1985 orthotopic heart transplantation was performed. Postoperative course was uneventful. Treatment did not cause systemic complications. Immunosuppressive therapy was established with cyclosporin A and Prednisone. He sustained a rejection episode graded from moderate to mild, that subsided with appropriate treatment. At present he is in functional class I. He is being followed with echocardiography, hemodynamic and electrophysiologic studies and endomyocardial biopsies performed at periodic intervals.

PA. 11

PRECARDIAL ST SEGMENT DEPRESSION DURING ACUTE INFERIOR MYOCARDIAL INFARCTION

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Precordial ST segment depression is known to occur frequently in patients (pts) with acute inferior myocardial infarction (MI), but its pathogenesis is controversial. Precordial ST segment depression has been attributed variously to reciprocal effect of ST segment elevation on the inferior leads, additional lateral wall ischemia or remote ischemia of the anterior wall as a result of disease of the left anterior descending coronary artery (LAD). To elucidate the genesis of precordial ST segment depression during acute inferior MI, we evaluated the pts by examining the coronary anatomy and the ECG at the time of coronary angiography. Among consecutive 72 pts who underwent selective coronary angiography by the Sones technique within the first 12 hrs of acute MI, 15 pts (12 men, 3 women; 55.5 yrs) were studied who were found to have right coronary artery (RCA) occluded and had acute inferior MI. All 15 pts showed no concomitant LAD disease on coronary angiogram. There was a significant but weak correlation between the magnitude of precordial ST segment depression and the magnitude of inferior ST segment elevation. To examine the effect of lateral wall ischemia on precordial ST segment depression, the pts were divided into two groups according to the size and distribution of left circumflex coronary artery (LCX) on the coronary angiogram. One group consisted of 5 pts with large LCX as well as large RCA, showing a tendency of minimal precordial ST segment depression due probably to large distribution of LCX and no ischemic injury of lateral wall. In contrast, a tendency of precordial ST segment depression was observed in the other group of 10 pts with large RCA and small LCX, probably reflecting lateral wall ischemia due to small distribution of LCX. Therefore, precordial ST segment depression in pts with acute inferior MI is likely to represent a reciprocal effect of the inferior leads, which is modified by additional lateral wall ischemia. There is no concomitant LAD disease.

PA. 12

INTERMITTENT CLAUDICATION AND INTERNAL MEDICINE.

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The symptoms of intermittent claudication are often only a part of a multivascular disease. Accordingly, it would be appropriate to have a primary approach from internal medicine in cases that do not need immediate surgery. Objectives: To evaluate the proportion of problems related to internal medicine in a population with intermittent claudication.

Material and methods: 201 patients with intermittent claudication were investigated. 109 were already diagnosed at the Department of Medicine, and 92 were recruited by invoice letters to age cohorts, aged 58,60 and 62. 75% of the patients were males, mostly (45%) 60-69 years old. The age distribution for women was similar. Only 10% of the subjects had a duration less than 1 year; 65% had a duration of more than 3 years.

Results: At the first examination it was noted that 20% had suffered a myocardial infarction, 30% had symptoms of angina pectoris, 4% had a previous stroke, 10% had diabetes mellitus (mainly type 2), 50% were on antihypertensive treatment (30% on beta-blockers, 25% on diuretics, and 15% on other antihypertensive drugs). Hypercholesterolemia (> 7.5 mmol/l) was recorded in 23% of the patients, but only 6% was on drug treatment. Only 3% had never smoked. During a 48 months' observation period another 37 patients (18%) had an acute myocardial infarction, fatal in half the cases. 3.5% of the patients died from various reasons, some of them from cancer. In total, a number of 14 (7%) cases of cancer was detected, half of those were lung cancers. Conclusion: The high incidence of cardiovascular disease and cancers in subjects with intermittent claudication indicates the need for an early and aggressive intervention from the internists.

PA. 13

ELECTRO-ECHOCARDIOGRAPHIC CORRELATION IN EARLY DETECTION OF HYPERTENSIVE CARDIOMIOPATHY.

Lemus J., Saravia D., Pérez J.,
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Trying to establish the sensibility of echocardiogram in the early detection of hypertensive cardiopathy, we studied 28 hypertensive patients with normal electrocardiogram (EKG) and 10 normal subjects. Left ventricular dimensions in diastole and systole was established in long axis paraesternal view and M mode echocardiogram. In the same level was established the septal (Sp) and posterior wall (Pw) thickness. Left ventricular ejection fraction (EF) and shortening fraction (SF) were calculated by conventional formulas, each measurement was corrected for his body surface. The mean values found were:

Control group: Sp (cm/mt²): 0.58 ± 0.09
sp/Pw (cm) : 1.05 ± 0.08
EF : 0.69 ± 0.04
SF : 0.32 ± 0.03

Patient group: Sp (cm/Mt²) : 0.70 ± 0.13
Sp/Pw (cm) : 1.27 ± 0.22
EF : 0.71 ± 0.11
SF : 0.35 ± 0.08

The mean septal thickness and the Sp/Pw ratio were greater in hypertensive patients compared with control group ($p = 1.5 \times 10^{-5}$; $p = 2.42 \times 10^{-2}$ respectively). The EF and SF are similar in both groups.

The septal thickness was increased in 61% of the patients and the Sp/Pw ratio in 68%. Left ventricular function was decreased in 28% of hypertensive patients.

We conclude that M and 2D echo is helpful in the early detection of hypertensive cardiopathy and hypertrophy may be asymmetrical in early stages.

PA. 14

ATRIAL FLUTTER AFTER CARDIAC SURGERY. CONVERSION TO SYNUS RHYTHM WITH STIMULATION TECHNIQUES.

Mesa J., Escorcía E., Villegas A., Duran M., Montoya M., Giraldo N., Torres O., Mesa A.
Centro Cardiovascular Colombiano, " Clínica Santa María ". Medellín - Colombia.

Five patients developed six episodes of type I atrial flutter in the immediate post-operative period of cardiac surgery. Three patients underwent coronary artery bypass grafting because of severe coronary artery disease, and two patients valvular surgery because of rheumatic heart disease.

The age of the group was 49 ± 14 years (30 - 64 years). None of the patients received antiarrhythmic drugs following surgery.

We performed right atrial endocardial stimulation in four patients while one patient received right atrial epicardial stimulation. The stimulation protocol was the following: with a cycle length (CL) 20 msec shorter than atrial flutter CL, the pacing protocol was always begun.

Subsequently we decreased decrementally (20 msec) the stimulation CL, looking for progressive changes in the morphology of atrial electrograms and/or surface ECG P waves, suggestive of fusion beats. Each stimulation series lasted 8 - 10 seconds. When we obtained maximal change in morphologies, the stimulation protocol was stopped abruptly. With this stimulation protocol we successfully interrupted the six episodes of atrial flutter.

During follow up (1 - 4 months), recurrence of atrial flutter has not been observed in any patient.

CONCLUSION:

- 1). Atrial stimulation technique is safe and effective in the treatment of type I atrial flutter following cardiac surgery.
- 2). The behavior of atrial flutter to this stimulation protocol suggest that reentry is its mechanism.

PA. 15

ELECTROPHYSIOLOGICAL EVALUATION OF A PATIENT WITH ORTHOTO PIC CARDIAC TRANSPLANTATION.

Mesa J., Escorcía E., Villegas A., Duran M., Giraldo N., Montoya M., Mesa A.
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A 37 years old male patient (pt), underwent cardiac transplantation because ischemic cardiomyopathy 2 months before electrophysiological evaluation. The indication for the study was intermittent right bundle branch block, complex ventricular ectopy and low rate Wenckebach phenomenon. The A-H and H-V values were 90 and 45 msec respectively.

We could record the atrial electrograms from the recipient and donor atrium which were dissociated. We were not able to stimulate the right atrium despite several attempts at different sites. The stimulation threshold of right ventricular apex and outflow tract were 0.4 milliamp.

Programmed ventricular stimulation of the right ventricle (apex and outflow tract), with 2 different cycle lengths with a basic train of 8 beats and up to 2 ventricular extrastimuli as well as rapid pacing failed to elicit any ventricular arrhythmia. We did not observe repetitive ventricular responses.

CONCLUSION:

- 1). This study suggests that intraventricular conduction disturbances as well as complex ventricular ectopy early after cardiac transplantation are probably lacking of clinical meaning.
- 2). In the presence of normal atrio ventricular conduction time and morphology of atrial electrograms (donor and recipient) we were not able to stimulate the donor right atrium.

PA. 16

SURGERY FOR VENTRICULAR TACHYCARDIA.

Mesa A., Villegas A., Duran M., Escorcía E., Montoya M., Giraldo N., Pulido L., Mejía G., Yepes F.
Centro Cardiovascular Colombiano, " Clínica Santa María ". Medellín - Colombia.

Three patients (pts) with ischemic heart disease (IHD) with recurrent and inducible ventricular tachycardia (VT), underwent myocardial revascularization and VT surgery. The age of the group was 62 ± 3 years. All patients had Q waves, myocardial infarction and angiographic evidence of ventricular aneurysm. Each pt had received more than one antiarrhythmic drug for VT control (2.3 ± 1).

Surgery was based on preoperative endocardial mapping findings during VT and/or on intraoperative epicardial-endocardial mapping findings during VT.

The earliest endocardial site of activation during VT was considered as the origin of VT.

The surgical procedure included: endocardial resection around the site of VT origin, aneurysmectomy and myocardial revascularization.

Following surgery, VT or heart failure were not observed in any pt.

On the 7th post-operative day, two pts underwent programmed ventricular stimulation through a pair of temporary epicardial wire electrodes, placed on both ventricles at the time of surgery. In each case the study was negative for VT induction. Finally all pts were discharged on no antiarrhythmic medication.

During follow-up (5 ± 1 months), recurrence of VT has not been observed in any pt.

CONCLUSION: In these pts with IHD and recurrent - inducible VT, surgery against VT based on pre-operative and intra-operative mapping findings produced excellent therapeutic results.

PA. 17

SURGICAL TREATMENT OF WOLFF PARKINSON WHITE SYNDROME (W.P.W).
 Mesa A., Villegas A., Duran M., Giraldo N., Montoya M., Mejía G., Pulido L., Yepes F., Torres O.
 Centro Cardiovascular Colombiano, "Clínica Santa María", Medellín - Colombia.

Three patients (pts) with W.P.W syndrome underwent surgery in order to abolish circus movement tachycardia. The age of the group was 33 ± 11 years. All pts had history of sustained tachyarrhythmias, and had taken more than one drug for arrhythmia control (2.3 ± 2 drugs). In two pts surgery was indicated because sustained symptomatic recurrent tachycardia. The remaining one pt received surgery for W.P.W at the time of aortic valve replacement because rheumatic heart disease. We performed preoperative mapping in two pts. Intraoperative mapping was performed in all pts. Preoperative mapping findings were obtained during tachycardia. Intraoperative mapping findings were obtained during tachycardia and/or ventricular pacing. We found a total of 4 fascicles, all of them on the left side of the heart: 1 paraseptal, 1 posterior, 2 free wall. On the 7th post-operative day pts underwent programmed stimulation of the heart through epicardial wire electrodes placed on the heart at the time of surgery. In each case the post-operative electrophysiologic study was negative. Pts were discharged on no antiarrhythmic drugs. During follow up (4 ± 2 months), pts have been free of arrhythmic events.
CONCLUSION: Surgery against W.P.W syndrome guided on preoperative and intraoperative mapping findings is curative of this syndrome.

PA. 18

EFFECTS OF TICLOPIDINE AND CARTOPRIL ALONE OR IN COMBINATION IN HYPERTENSIVES WITH CLAUDICATIO INTERMITTENS
 Novo S., Cosentino F., Strano A.*
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Ticlopidine (T) is an antiaggregating drug that acts also by improving haemorheological parameters such as red cells deformability, while Captopril (C) is an inhibitor of the angiotensin converting enzyme that increases the perfusion in the lower limbs of hypertensives enhancing also the maximal vasodilation capacity at the calf. The aim of this study was to evaluate the effects of C and T alone or in combination on pain free distance, total walking distance, ankle/arm pressure ratio and blood pressure in patients with arterial hypertension (mild or moderate) and arterioesclerosis obliterans of the lower limbs, II stage according to Fontaine classification. 12 male patients aged 45 and 65 years, after one-month washout period were randomized in two groups. The 1st one was treated with T, 250 mg. twice a day, for three months and then with T plus C, 50 mg. twice a day, for three months. The 2nd one was treated before with C and then with C plus T for the same time. T induced no change of blood pressure, but increased significantly pain free distance and total walking distance (p<0.05). C alone induced a significant diminution in both systolic and diastolic blood pressure with a significant improvement of pain free distance (p 0.0125), total walking distance (p<0.05) and a slight increase of Winsor's index. The association between T and C determined a greater increase in pain free distance and in total walking distance (p<0.01) with an increase in Winsor's index.

PA. 19

DISTURBANCES OF CARDIAC RYTHM IN IDIOPATHIC DILATED CARDIOMYOPHY (IDC): ELECTROCARDIOGRAPHIC AND ELECTROPHYSIOLOGIC CHARACTERIZATION.

Ortiz L., Mesa J., Duque M., Torres O., Mesa A.
 Centro Cardiovascular Colombiano "Clínica Santa María", Medellín - Colombia.

We reviewed the medical records of patients (pts) with IDC admitted to our Institution during the last year, in order to analyze the electrocardiographic and electrophysiologic characteristics of major cardiac rhythm disturbance present in these pts. Out of 22 pts with IDC, 7 (31%) had cardiac arrhythmias manifested on surface ECG, during continuous monitoring, 24 hours Holter recording or induced during electrophysiologic study (EPS).

We identified 2 groups of pts:

Group I: Four pts (57%) with permanent atrial fibrillation, without symptoms directly attributed to this arrhythmia.

Group II: Three pts (43%) in sinus rhythm: One pt had sustained (>10 beats) ventricular tachycardia. One pt had syncope (Sy) and nonsustained VT (<10 beats) and one pt had Sy.

There were no differences in terms of functional class between the two groups of pts.

However group II pts was younger (mean age 33 years) than group I pts (mean age 50 years).

In group II pts presenting with Sy had a positive EPS for monomorphic VT and ventricular flutter respectively, and pt with clinical VT had a negative EPS.

CONCLUSION:

- 1). In IDC ventricular arrhythmias are almost as frequent as atrial arrhythmias (43% vs 57%).
- 2). We confirm the concept that in IDC functional class does not predict the type of presenting arrhythmia.
- 3). Sy is the most common pattern of presentation of major ventricular arrhythmia and EPS is the best way to characterize them.

PA. 20

ELECTROCARDIOGRAPHIC CHARACTERISTICS OF VENTRICULAR TACHYCARDIA IN PATIENTS WITH CORONARY ARTERY DISEASE (CAD).

Ortiz L., Duque M., Mesa A.
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Not infrequently cardiac arrhythmias in patients (pts) with coronary artery disease (CAD) are misinterpreted. Because ventricular tachycardia (VT) is a potentially lethal arrhythmia its rapid electrocardiographic recognition is important if a prompt and adequate treatment is required. Here we report the most relevant electrocardiographic characteristics of VT in pts with CAD.

We studied ten pts with CAD; seven men and three women, with a mean age of 61.8 years (range 48 - 83 years). Diagnosis of VT was established if the rate of arrhythmia was >100 beats/minute, QRS > 0.12 seg, in the presence of atrioventricular dissociation.

Right bundle branch block (RBBB) VT was observed in 8 of 10 pts (80%), and left bundle branch block (LBBB) VT in 2 pts (20%).

Morphologic characteristics of RBBB VT in V1 were: R in 2 pts, Rr in 2 pts, QR in 1 pt, qR in 3 pts. Five pts had left axis deviation and 3 right axis deviation of VT.

Morphologic characteristics of LBBB in V6 were: Rr 1 pt, qR 1 pt. Both pts had left axis deviation of VT. Mean cycle length of VT was 340 msec (176 beats/minute) being regular in all but 2 pts who had irregular tachycardias with polymorphism tendency.

In summary, the most common characteristics of VT in CAD pts are:

- 1). RBBB morphology (80%).
- 2). QRS > 0.14 seg.
- 3). Left axis deviation of VT.
- 4). RBBB VT morphology in V1 never was rSr' type.

PA. 21

NON-INVASIVE DETERMINATION OF LEFT VENTRICULAR VOLUMES

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Left ventricular volumes are important for evaluation of cardiac performance, particularly when calculated at endsystole. The aim of the study was to test the accuracy of non-invasive calculation of left ventricular volumes. We utilized the radionuclide technique (99m Tc) Technetium RBC's at equilibrium and the method was validated by comparison with angiographic ventriculography. The radionuclide study was performed within twenty-four hours of the cardiac catheterization procedure. There were sixteen consecutive patients, eleven men and five women, within age range of 35-86 years. The radionuclide left ventricular volume was determined from the newly developed method of Starling and et al (1984) in which a correction factor was introduced due to the difference in attenuation factors related to the distance between the camera and the left ventricle. Background subtraction utilized the linear interpolative subroutine. Analysis of data and correlation studies demonstrated that the individually attenuation-corrected radionuclide left ventricular volumes correlated with the cineventriculographic volumes with an r value of 0.96 for both EDV and ESV. The clinical implications of the method are of extreme importance for the evaluation of cardiac performance using the Emax techniques. Also, the relationship between enddiastolic volume, and systolic and diastolic cardiac function can be evaluated more accurately than previously.

PA. 22

NON-INVASIVE HEMODYNAMIC EVALUATION OF LOW CARDIAC OUTPUT STATES

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Low cardiac output has been equated with poor cardiac function. However, cardiac output can be affected by peripheral factors other than myocardial contractility in conditions of increased afterload (hypertensive patients) or decreased preload (excessive venous pooling). Patients with congestive heart failure (functional class II - IV) were used as control.

GROUP	MAP mmHG	HR bpm	CI L/min/m ²	EF %	CPV/TV X	MTT Sec
HT	126	66	2.0	57	16	11
Venous Pooling Patients	116	65	2.0*	58	12*	8.5
CHF	94	89*	1.7*	17	33*	18*

*P 0.05 from normal.

Therefore, the mechanism underlying the depressed cardiac output in the various groups was best defined by integrating indices of cardiac performance (EF) with the blood volume distribution (CPV/TV) and with the velocity of the circulation (MTT). This overall evaluation of cardiovascular function allows better understanding of the individual disturbance as well as selection of the appropriate therapeutic interventions. GP

PA. 23

PRONOSTIC VALUE OF THE LEFT VENTRICULAR FUNCTION IMMEDIATELY AFTER ACUTE MYOCARDIAL INFARCTION.

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We included 30 patients selected by random with the clinical diagnosis, electrocardiographic and enzymatic changes of Myocardial Infarction (MI).

The left ventricular function was studied within the first five days of MI and controlled between 2½ and 4 months later. The technics used was Multiple gated nuclear angiography (MUGA). And left ventricular wall motion (ECAP) after injection of technetium pyrophosphate labeled red blood cells.

Lethal complications such as cardiogenic shock or ventricular fibrillation were more frequent in patients with ejection fractions less than 0.35 (p 0.001) there was no relationship between ejection fraction and postinfarction angina. There was no change in the ejection fraction in the second study of each patient.

We concluded that the measurement of the left ventricular function in the acute phase of MI helps to find those patients at risk of fatal complications.

PA. 24

COMPARATIVE SURVEY OF ETOFIBRATO, CLOFIBRATO AND CLOFIBRATO PLUS NICOTINIC ACID IN THE TREATMENT OF HIPERLIPOPROTEINEMIAS.

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In an open study, controlled and at random, an investigation of the efficacy of and tolerance to 1 gram of Clofibrato plus 150 mg. of nicotinic acid a day in 60 patients suffering from hiperlipoproteinemias was performed. During the 10-week treatment, the Etofibrato gave the best results with respect to the serum concentration of cholesterol, triglycerids and LDL cholesterol, elevation of the HDL concentration in the blood and subsequently the decrease of the atherogenic rate. Besides, the treatment with Etofibrato showed fewer side effects than the comparison groups.

This drug, apart from the powerful hipolipemic effects and few adverse reactions, has an effect on the tromboxan A2 and the prostacilin which makes it, for many patients, the best medicine for the prevention of Arteriosclerosis.

PA. 25

DIAGNOSIS OF VENTRICULAR SEPTAL RUPTURE IN THE PATIENT WITH MYOCARDIAL INFARCTION WITH DOPPLER COLOR FLOW MAPPING
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Nagoya University Hiroshi Okamoto, Kenzo Yasuura,

Rupture of the ventricular septum complicates 1-3% of acute myocardial infarction. Without surgery the outcome is invariably fatal. It requires early detection and suitable treatment. As a noninvasive technique, 2-dimensional echocardiography provides reliable information in the patient with holosystolic murmurs in case of acute myocardial infarction, but with this method we can not always detect the ruptured site nor exclude mitral deficiency. Pulse doppler echocardiography combined with 2-dimensional echocardiography detects accurate site of the perforation, as well as mitral regurgitation, if co-exists; but this method takes time in mapping. In this respect, with doppler color flow mapping we can instantly and directly recognize the shunt flow from the left to the right ventricle.

Doppler color flow mapping is considered a remarkable method to detect ventricular septal rupture in the patient with acute myocardial infarction in that it can be performed noninvasively with ease and accuracy.

PA. 26

MANAGEMENT OF REFRACTORY VENTRICULAR TACHYCARDIA WITH CARDIAC STIMULATION TECHNIQUE.

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Patients (pts) with refractory ventricular tachycardia (VT) to pharmacologic maneuvers, usually undergo cardioversion to restore normal sinus rhythm. Here we present our experience about the management of refractory VT with right ventricular endocardial stimulation technique.

A total of four pts who had 7 episodes of stable well tolerated VT represent the basis of this report.

The mean age of the group was 59 year. All pts had coronary artery disease (CAD) with old myocardial infarction. Before the procedure at least an antiarrhythmic agent administered intravenously had failed to suppress VT in each case.

Once the catheter electrode was placed in the right ventricle, the stimulation protocol began: with a cycle length (CL) 10 msec shorter than VT CL, the ventricle was initially stimulated. Each stimulation series lasted 10-15 seconds. We decrementally decreased the stimulation CL 10 msec for each subsequent stimulation series. On surface ECG we looked for progressive changes in QRS complex morphology accompanied by acceleration of VT CL to stimulation CL (entrainment). Once we obtained a total change in QRS complex morphology (capture) stimulation was abruptly stopped.

Following this protocol we successfully interrupted the 7 episodes of VT without complications.

CONCLUSION:

- 1). Programmed right ventricular stimulation is an excellent therapeutic modality for the treatment of refractory VT avoiding cardioversion.
- 2). Entrainment demonstration suggests that reentry is the most probably mechanism of the arrhythmia.

PA. 27

THE POSSIBLE EFFECT OF MENTAL STRESS ON ANGINA PECTORIS. A PRELIMINARY REPORT.

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Well known is the influence of emotional stress on ischemic myocardium. For a better evaluation of this influence 40 patients (pts) (26 M and 14 F) ranging from 45 to 75 years were studied. All were suffering from angina at rest or on effort documented by Echocardiography, Holter monitoring and exercise ECG. A 3 minutes Mental Arithmetic Stress Test (MAST) was performed in which a two-figures number were serially subtracted from a four-figures number. During the test heart rate, arterial pressure and a 12-lead ECG were continually recorded as well as the possible appearance of angina. Mental as well as exercise tests were considered positive when a ST segment elevation ≥ 1 mm or an ST depression ≥ 0.15 mm or a normalization of a negative T wave were observed. Double Product (DP) was used as an index of myocardial O_2 consumption.

MAST did not cause the appearance of ischaemia in 30 (75%) pts, despite a significant increase in heart rate and arterial pressure. In all of them maximal DP during MAST was lower than that obtained during exercise ECG. In 10 (25%) pts the following ECG abnormalities were observed: ST elevation (3 pts), ST depression (5 pts), T normalization (2 pts). No arrhythmias appeared. As it regards the DP of these positive patients, only in 2 of them it was higher than that obtained during exercise ECG, so that an exhaustion of coronary reserve and an increase in myocardial O_2 consumption may be presumed. In the remaining 8 pts DP was lower than that found in exercise ECG probably for a decrease of coronary blood flow. This preliminary study further confirms the important role of nervous system in worsening myocardial ischaemia through a primary decrease in coronary flow.

PA. 28

INTERNAL MAMMARY ARTERY IN MYOCARDIAL REVASCULARIZATION

Drs.: Villegas A., Mesa J., Duran M., Giraldo N., Montoya M.

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Forty four patients underwent surgery using internal mammary artery complemented with internal saphenous vein for complete myocardial revascularization.

Thirty two were males and 12 females. Ages between 29 and 73 years old. 45% had history of arterial hypertension, 20% of diabetes. 22 had myocardial infarction more than six months previously, 7 of less than six months and three acute myocardial infarction. 6 had 70% stenosis of one vessel, 14 of two vessels and 24 of three vessels.

31 were operated electively and 13 urgently.

Left internal mammary artery was utilized in 43 patients and the right in 5. Of a total 159 distal anastomosis,

66 (41.5%) were with internal mammary artery, with a mean of 3.56 anastomosis for patient. One patient died in the immediate post-op of asystolia not responsive to resuscitation.

The internal mammary artery having a longer permeability than the saphenous vein is safe and the technique of choice for myocardial revascularization.

PA. 29

SURGERY OF CARDIAC LESIONS CONCOMITANT WITH MYOCARDIAL REVASCULARIZATION.

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Twenty nine patients, age ranging from 32 to 72 years old, were operated for aortic stenosis (18), mitral insufficiency (3), aortic insufficiency (2), mitral and aortic insufficiency (1), mitral stenosis (1), right ventricular aneurysms (7), diverticulum of the left ventricle (1), rupture of the interventricular septum in the course of acute myocardial infarction (2), refractory ventricular tachycardia (3).

There were 14 aortic valve replacements, 2 mitral valve replacements, 2 mitral anuloplasties, 7 resections of left ventricular aneurysms, 1 closure of left ventricular diverticulum, 2 closures of rupture of the interventricular septum during evolution of myocardial infarction, and 3 mapping guided subendocardial resections.

A mean of 2.86 anastomosis for myocardial revascularization were performed using both safenous vein and internal mammary artery.

Three patients died; one with extensive myocardial infarction and rupture of the interventricular septum, one with mitral insufficiency and one with mitral and aortic insufficiency, all in functional class IV.

It is concluded that myocardial revascularization in association with correction of other lesions is possible during the same surgical procedure.

PB. 30

FIBRONECTIN IN ACUTE LEUKEMIAS AND MALIGNANT LYMPHOMAS

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Plasma fibronectin (FN) levels were studied by laser nephelometry in 21 patients with acute lymphocytic leukemia (ALL), 42 patients with acute non lymphocytic leukemia (ANLL), 56 patients with non Hodgkin's lymphoma (NHL) and 41 patients with lymphogranulomatosis (LG) during the course of the diseases. Significantly lower FN concentrations were detected at the time of the diagnosis in all groups as compared to age and sex matched controls (FN \pm SD μ g/ml ALL:202 \pm 63, ANLL:189 \pm 72, NHL:238 \pm 68, LG:217 \pm 50, control:365 \pm 41). In the course of the diseases FN concentrations didn't correlate with the peripheral blast cell count, white blood cell count in acute leukemias (AL) or with the cytochemical or the histological types of the diseases. The onset of septic, infectious complications or disseminated intravascular coagulation caused a marked decrease in plasma FN levels. The concentration of FN slightly decreased on the first day of the treatment of patients with cytostatic drugs. In remission, FN levels were in the normal range in patients with ALL and ANLL. FN:C was present during the course of the diseases approx. in the half of the patients with AL, in 15% of patients with LG and 25% of patients with NHL however none of the healthy controls or in patients with AL in remission.

Detection of plasma FN concentration during the course of malignant hematological diseases can be a useful parameter for the evaluation of the host defence.

PB. 31

ACUTE LEUKEMIA. CHEMOTHERAPY EVALUATION

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Between 1.980 and 1.984, 42 patients with Acute Leukemia were treated: 22 (47.8%) Lymphocytic, and 24 (52.1%) non Lymphocytic; 58.6% were men and the 36.9% of them were between 21 and 30 years old.

The diagnostic was corroborated in the examination of marrow film. All the patients needed red cells transfusion. More than 50% needed platelets concentrates and 62.5% needed antibiotics for infectious complications.

Acute Lymphocytic Leukemia: a) 8 patients (36.3%) were treated for induction chemotherapy: 5 courses of Vincristine (VCR) 2 mg. I.V. weekly and Prednisone (PDN) 40 mg/m²p.o. 5 (62.5%) had complete remission (CR) and 3 (37.5%) had no response. In 4 patients (18.1%) relapse occurred one year after in average; 1 (4.5%) is in CR three years after the diagnostic. b) 14 patients (63.6%) received for induction chemotherapy: VCR 2 mgr. I.V. weekly, Adriamycin (ADR) 50 mg/m² I.V. each 21 days and PDN 40 mg/m² p.o. There were 10 (71.2%) in CR and 4 (28.5%) without response. The patients in CR received as prophylactic treatment of CNS Radiotherapy and 5 courses of Metotrexate (Mx) + Dexametasena intratecal and repeated each three months. Maintenance therapy was with Mx, 6 Mercaptopurine (6MP), and monthly VCR 2 mg/plus PDN 40 mg/m² for a week.

Non Lymphocytic Leukemia: 14 patients (58.3%) were myeloblastic; 8 (33%) myelomonocytic and 2 (8.3%) undifferentiated. The protocol employed was ADOP (ADR: 50 mg/m² I.V.; VCR: 2 mgr I.V.; ARA C 100 mg/m² I.V. by continuous infusion over 12 hours each day for 7 days; PDN: 40 mg/m² p.o. for 5 days) each 21 days. 16 (69.5%) achieved CR and 7 (30.4%) had no response. 10 (62.5%) relapsed at 4 months in average and 3 (13%) at 2 years. 2 (8.6%) have been survival 3 and 4 years. The patients in CR received as maintenance therapy Mx 15 mg p.o. twice weekly, cyclophosphamide 200 mg p.o. weekly 6MP 150 mgrs. daily and VCR: 2 mg I.V. plus ARAC 50 mg. S.C. three times each day for 7 days.

PB. 32

MALIGNANT LYMPHOMAS. CHEMOTHERAPY EVALUATION

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Between 1.980 and 1.984 were treated 59 patients with malignant lymphomas: 35 (59.3%) were non Hodgkin's Lymphomas, and 24 (40.7%) Hodgkin's Lymphoma, predominant in men between 21 and 40 years old. The diagnostic was based on appropriate lymph node histopathology and the clinical stage on Ann Arbor Staging Classification.

Non Hodgkin's Lymphomas. Classification: Well differentiated lymphocytic 12 (34.2%); middling differentiated 5 (14.28%); Poorly differentiated 7 (20%), Nodular 2 (5.71%); Histiocytic 2 (5.71%) Mixed 2 (5.71%) Follicular large cells 1 (2.5%).

Clinical Stage (CS): 9 (25.7%) CS IV; 19 patients (54.2%) CS IIIB; 9 (25.7%) CS IIB. The CS IV (25.7%) and 9 (25.7%) CS IIIB (high and intermediate grade) were treated with CHOP. The CS IV and 6 (17.1%) CS IIIB, had no response and 3 (8.57%) achieved complete remission. 5 (14.2%) CS IIIB and 8 (22.8%) CS IIB treated with COPP (7 cycles) achieved remission and are free of tumor 1 and four years after stopped the treatment.

Hodgkin's Lymphoma. Classification: Mixed cellularity 11 (45.8%); nodular sclerosis 8 (22.8%); Lymphocytic predominance 4 (16.6%) and Lymphocytic depletion 1 (2.85%).

Clinical stage (CS): 3 (12.5%) CS IV; 13 (54.1%) CS III (11, CS IIIB and 2, CS IIIA); 5 (20%) CS IIB and 3 (8.3%) CS IA.

The CS IV (12.5%), 11 (45.8%) CS IIIB and 3 (13.5%) CS IIB were treated with protocol CMOPP + ABVD; the CS IIA were treated with Radiotherapy + CMOPP (4) and CS IA with Radiotherapy. The CS IV had no response and the CS IIIB, IIB, IIA and IA are free of tumor 1 and 4 years after the treatment, with a rate remission of 87.5%.

HEMATOLOGICAL EVALUATION IN NARCOTICS ADDICTS
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Thrombocytopenic Purpura has been described in chronic narcotic addiction (1).

With the purpose of determining possible hematological alterations in narcotics addicts, we studied 20 adults between ages 18 and 33 years old, 17 (85%) men, with history of narcotics addiction between 2 and 10 years.

Methods : In samples of venous blood were practiced the following tests. a) To detect disturbances in myelopoiesis : Hemoglobin concentration, hematocrit, reticulocytes count, leucocytes count, blood smear examination, differential cell count, examination of bone marrow smear. b) Tests to detect Hemolysis : Serum bilirubin, direct Coombs' test, detection of Hemolysins, glucose 6PD, haptoglobin, and iron serum. c) Test of hemostatic function : Bleeding time, platelet count, prothrombin time, prothrombin consumption, partial thromboplastin time, quantitative fibrinogen, euglobulin lysis time determination of fibrin degradation products. d) Detection of cocaine metabolite, cannabinoid and methaqualone, in urine.

Results : a) Anemia in 3 (15%); one of them was ferropenic and associated with malaria. Leucocytosis between 12,000 and 14,000/mm³ in 3 (15%). Bone marrow hypocellular in 6 (30%) without changes in the hemopoietic cells types. b) High level of direct bilirubin in a man 28 years old addict for 10 years and with positive cocaine, methaqualone and cannabinoids in urine, without alterations in the tests to detect hemolysis. c) We didn't find thrombocytopenia in any of the patients or alterations in the tests of hemostatic function. d) In 9 patients (45%) was detected cocaine metabolite; in 8 (40%) methaqualone and in 14 (70%) cannabinoid in urine samples. In 3 (33%) of the group with positive cocaine metabolite, was found hypocellular marrow.

Those are the preliminary results of a prospective study.

- 1) Savona S., Nardi M., Lennette E., Karparkin S. : Thrombocytopenic Purpura in narcotics addicts. *Ann.Int. Med.*; 1, 1985: 102, 737-41.

TREATMENT OF ACUTE NO LYMFOBLASTIC LEUKEMIA (A.no L.L.)
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There are few reports in Colombia on the results of the treatment of A.no. L.L. Considering the socioeconomic conditions of our patients, we decided to use the (PDN-VCR-Ara-C) dosage which is both inexpensive and effective in the treatment of this oncohemopathy. This paper discusses the preliminary results obtained with the use of low dosages of Ara-C. From July 1982 to February 1985, fifty patients with A.no.L.L. were treated in our Hematology Section. Eleven patients were classified in accordance with the criteria of the F.A.B. as M1, eight as M2, eleven as M3, sixteen as M4, one as M5 and three as M6 (undifferentiated Leukemia). It was not possible to evaluate 52% of this group (26 patients) because ten of them died before receiving the chemotherapy treatment, three left the treatment; twelve refused the treatment due to economic reasons, and one patient died at the beginning of the treatment. The remaining 48% (24 patients) were treated with our protocol PDN:60 mg/m²/day, for five days; VCR:1.4 mg/m² and Ara-C:100 mg/m²/day for five days). This dosage was given every two weeks for six cycles. Complete hematological, renal and hepatic evaluations were done before and during the induction of the complete remission. Later on, monthly cycles of consolidation treatments were given with the same dosage. Like maintenance they received 6-MP and MIX orally two weeks, before each consolidation. If a patient remained for more than six months in complete remission, a prophylaxis of CNS was done with intrathecal MIX or Ara-C. The average age of the patients was 30 years with a range from 13 to 72 years, with a M/F Ratio of 1.08/1. Complete remission was achieved in 58.3% of the patients (14) and partial remission in one patient (4.1%). There was no response in 37.5% (9) of the cases. Currently, 79% (11) of our patients are alive and working, and the average duration of complete remission is 12.8 months. The survival of the group is 15.6 months. Eight out of fourteen patients (57.1%) have suffered relapses (seven with hematological symptoms and one in CNS); of the patients 38% have achieved a second remission (lasting an average of 8.3 months) with the same therapeutic dosage. Neither the age, nor the histological conditions influenced the response. The presence of DIC before the beginning of the treatment, as well as systemic infection, directly affected the prognosis of the patient. We concluded that it is necessary to offer treatment to all patients with A.no L.L. The use of low dosages of Ara-C (cellular differentiation inductor) reduced costs and produced results comparable to those of other specialized centers that use more aggressive dosages.

CURRENT PANORAMA OF MULTIPLE MYELOMA IN MEDELLIN EFFECTIVENESS OF CHEMOTHERAPY TREATMENT.
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Few studies have been reported in Colombia regarding the evaluation of the therapeutic aspects and life expectancy in multiple myeloma. We will inform and discuss the different therapeutic protocols, prognosis and life expectancy of a patient who suffered the disease during the period from July 1982 through March 1985. 23 were evaluated. We had a favorable response in 52.3% of the patients and there was no response in 47.7% of them. Most of the patients received Melphalan-Prednisone (MP) if they were classified in the lower stages (I&II), or Cyclophosphamide-Melphalan-Vincristine-Prednisone (CMP) in all the other stages. However several patients of the last group received the MP protocol due to economic low incomes. Notwithstanding, this was helpful in proving the minimal effectiveness of the MP protocol in the advanced stages: 67% of those patients had no response to the treatment, while 83% of those receiving the CMP showed a favorable response. The average life expectancy for the total group patients evaluated is currently 14.5 months. Among those patients who had a favorable response, the life expectancy is currently of 12.1 months (a range between one and 28 months) and on those patients who had no response 17.3 months (Range: 1 - 32 months). The mortality rate of patients treated during a 32-month control period up to the writing of this paper, is null. Fifteen out of nineteen patients are alive. The other patients stopped the treatment with the disease in complete remission. 73% of these patients are asymptomatic and presently working while only 27% are clinically symptomatic. Finally, among 20 patients under treatment, the type of response to the serum M complement to protein electrophoresis, was evaluated. Evaluating each type of electrophoretic response of the M component in relation to life expectancy, and the presence of favorable responses, we found that the best prognosis was type III, followed by types IV, II, and I. The above results let us conclude that all patients with multiple myeloma should receive medical treatment because it extends life expectancy, and improves the quality of life, the MP protocol being more useful in low stages, and the CMP protocol in advanced cases, which means that for this reason there is no major risk of toxicity on a long term basis. Furthermore, a strict control of these patients, evaluating the electrophoretic M component can also be a great prognostic aid.

TREATMENT OF ESSENTIAL THROMBOCYTOSIS WITH RECOMBINANT ALPHA-INTERFERON.
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The utility of alpha-interferon in controlling thrombocytosis in chronic myelogenous leukemia has been suggested by Talpaz (1983). As essential thrombocytosis is closely related to CML, this therapy has also been used in the former disease. Preliminary results from T. Velu indicated a good response in four patients, therefore a trial was activated. We treated two patients with recombinant alpha-interferon (rHV-IFN alpha 2arg) for essential thrombocytosis. Diagnosis was based upon elevated platelet count (900.000/mm³) and megakaryocytosis, associated with fibrosis, in bone marrow biopsy. The initial platelet count at the start of therapy was respectively 1162.10 /mm³ and 2100.10 /mm³. Interferon 5.10 U-IFN-IM was given daily until complete response (platelet count below 500.10 /mm³) was obtained. Both patients reached CR after 4 weeks. A maintenance treatment was then started consisting of 5.10 U-IFN IM three times a week. One patient showed a slight increase in platelet count with reduction of alpha-interferon administration. Nevertheless, these values still remain stable (500 - 700.10 /mm³ after 5 months. No major side effects were noted. These preliminary data suggest that alpha-interferon might be a better choice than alkylating agents in the treatment of essential thrombocytosis. However, a controlled study of large series is needed in order to obtain more information on the long term effect.

PB. 37

RED BLOOD CELLS MASS, PLASMATIC VOLUME AND HEMATOCRIT: MODIFICATIONS DUE TO ALTITUDE CHANGES.

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The objective of this study is to determine the variations that occur in the red blood cell mass (RBCM) plasmatic volume (PV) and hematocrit (Hct) with changes in altitude (Bogotá 2640 mts and Melgar 323 mts. above sea level) measured in persons who were transferred from one level to another as well as in permanent residents at both places. Blood samples were taken in 65 healthy male volunteers, average age 18.7 years resident in Melgar (323 mts. above sea level). PV, Hct. was determined in 22 of them. Six days later 23 patients of the first 47 moved to Bogotá (2640 mts. above sea level) new samples for PV and Hct. were taken 4 days after their arrival.

On the other hand, 32 young healthy males permanent residents in Bogotá were tested. RBCM was measured in 27 of them and PV was measured on 5.

The average Hct in Melgar (41.5%) was much lower than that of residents in Bogotá (49.6%) which is statistically significant ($P < 0.0001$).

On the contrary the PV is higher in Melgar (3.670 cc) in relation to that obtained in the same persons when they moved to Bogotá (2.673 cc) ($P < 0.001$) and of those permanent residents in Bogotá (2.269 cc).

The RBCM is very similar comparing the residents of low altitude (3.034 cc/kg) with those living in Bogotá (31.7 cc/kg) there's no statistically significant difference ($P = 0.1$) we demonstrate that there exists a very important contraction of the plasmatic volume at Bogotá altitude which can explain the increase in hematocrit without modifications of these findings are discussed especially in relationship with high altitude pulmonary edema.

PB. 38

PULMONARY INVOLVEMENTS OF LEUKEMIAS AND LYMPHOMAS

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We studied 146 cases of leukemias and lymphomas, who were admitted to our hospital between 1975 and 1985 (acute leukemia 34, chronic leukemia 18, and lymphoma 94). More than half of these cases have pulmonary involvements, such as pneumonias, pulmonary hemorrhages, lymphatic spreadings, and so forth.

We present (1) what kind of tests are better for correct diagnosis of pulmonary lesions, (2) how the correlations are between the pathology and X-ray findings of pulmonary lesions, and (3) how the prognosis was according to the kind of pulmonary lesions.

PB. 39

IRON STORES, LIVER FIBROSIS AND ACID HYDROLASES IN β -THALASSEMIA INTERMEDIA.

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Iron overload and liver involvement are commonly found in β -Thalassemia intermedia. The relationship between serum ferritin, liver iron concentration and liver siderosis has been studied in order to confirm the usefulness of serum ferritin in evaluating and monitoring body iron stores. Also blood N-Acetyl- β -D-Glucosaminidase (NAG) levels and NAG isoenzymatic pattern have been evaluated in order to determine any relationship between this acid hydrolase and iron stores. 10 β -Thalassemia intermedia patients (5 Q and 5 O aged 16-40) were studied. In all subjects percutaneous liver samplings were performed; in all samplings iron concentration (by atomic spectrophotometry), iron grade (by histochemical assessment), and fibrosis index (according to Risdon) were evaluated. Serum ferritin (by a two-site immunoradiometric method), blood NAG levels (by a modified Marhun method) and NAG isoenzymatic pattern (by electrofocusing) were studied too.

In β -Thalassemia intermedia patients mean serum ferritin levels, blood NAG levels and NAG isoenzyme A percentages resulted significantly higher than in Controls. A correlation between liver siderosis, liver iron concentration and serum ferritin as well as a correlation between NAG isoenzyme A and liver iron concentration ($p < 0.001$) and NAG isoenzyme A and serum ferritin ($p < 0.05$) was found. No correlation between NAG isoenzyme A and liver fibrosis was found.

Results of this study confirm usefulness of serum ferritin in evaluating iron stores. Also NAG isoenzyme A seems related to liver involvement.

PB. 40

LEG ULCERS IN β -THALASSEMIA INTERMEDIA.

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Leg ulcers appeared to be a relatively common complication of β -Thalassemia intermedia. Aim of this research was to study venous pathogenesis of leg ulcers in order to define their specific treatment. 12 β -Thalassemia intermedia patients (7 Q aged 23-47 and 5 O aged 22-35) have been examined. Leg physical examination and Doppler ultrasonography (Mx 300 S-Montagex) study were performed in all patients. Eight patients showed one or more leg ulcers over the malleoli; all patients showed hyperpigmentation on the lower third of legs especially over and around the malleoli where trophic skin changes and edema were frequently found. Leg ulcers showed variable extension, were sharply defined, shallow, generally surrounded by a broad zone of erythema and hyperpigmentation. The Doppler ultrasonography showed: 1) pulsed venous flow on superficial and deep veins in all patients examined; 2) normal canalization of deep veins in 9 patients and occlusion of posterior tibial veins in 3 patients; 3) reverse flow in deep veins in 5 patients; 4) reverse flow in superficial veins in 7 patients; 5) incompetent perforating veins in 7 patients; 6) venous blood hypertension of superficial and deep veins in all patients; 7) increased venous flow velocity in all patients. Our clinical and instrumental results indicate a chronic venous insufficiency of lower limbs with a severe venous hypertension in all patients. Starting from these results, a therapy for venous insufficiency by means of elastic-compression has been prescribed. This treatment has allowed to obtain evident improvement and healing of ulcers in few months.

PB. 41

A FIVE YEARS CANCER PROFILE IN WORKERS OF BOGOTA
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A retrospective analysis of incidence and lethality of cancer in twenty different anatomic sites discriminated by age and sex are presented. The medical records of all the affiliated patients discharged from 1980 to 1984 at the Clínica San Pedro Claver and the University Hospitals under contract with Instituto de Seguros Sociales (ISS) are the subject of this report. ISS coverage for the last year of the study reached almost 90% of employed workers in the city of Bogotá D. E. The yearly geometric mean incidence of all cancer was 90.0 per 100.000. The specific mortality rate was 16.0 per 100.000 and the lethality rate 17.7%. The mortality rate was equal for both sexes. The highest incidence of cancer was observed in the group of "mature adults" (45-59 years), being higher in women. Mortality by age, peaked before in women (30-44) years than in men (45-59 years). Gastric cancer was the first cause of death and responsible for most discharges in men from 30 to 70 years. Surprisingly, gastric cancer incidence and mortality surpassed those of cervix cancer in women. Otherwise, the improvement of early diagnosis of in situ cervix cancer evidenced by a greater number of discharges, was followed by an incidence decrease and stabilization of mortality of cervix cancer. The incidence and mortality by leukemia, linfoma and related diseases, ranked second and lung cancer third, followed by central nervous system tumors.

PC. 42

FIBRONECTIN: Clinical and Laboratory Modifications in Trauma and Sepsis Patients.

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Fibronectin is an Alpha2 Oponic glycoprotein which promotes phagocytosis of microaggregates of fibrin and collagen and cellular debris for the RES. Such particles are found to increase in trauma and burns and their clearance assumes a depletion of fibronectin, which promotes sepsis appearance, because of impaired opsonization. A determination of normal levels was made in 40 healthy subjects showing a mean of 395.75 mcgr/ml. with a SD of 65.24. Subsequently, a group of 23 polytrauma, burns and surgical trauma patients was studied whose initial levels of fibronectin were low, then cryoprecipitate was provided to replace fibronectin and new tests were taken. Likewise, a group of patients with similar clinical conditions was chosen who did not receive cryoprecipitate. The clinical response was evaluated and a notorious recovery was detected in the group which received cryoprecipitate which reached normal levels of fibronectin and mortality decreased as compared to the group that did not receive it. As an opsonic protein, FN promotes the clearance of abnormally accumulated insoluble particles in intravascular space following trauma and sepsis. If consumed, a blockage of RES appears which diminishes the hosts resistance to shock and sepsis.

PC. 43

MEDICAL TREATMENT OF TUBERCULOSIS OF THE SPINE (POTT DISEASE).

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During the years 1955-56 and 57, we had the opportunity to treat nine cases of Pott Disease. Three of them with paralysis. One paraplegia, one paraparesia and one cuadriplegia. X-ray of the spine demonstrated lesions in L-1-2, D, 3-4 and C-2-3-4. The six other cases did not have spinal cord compression. All were treated with Isoniacide and Streptomycin. We had the intension to treat the patients with paralysis, surgically. But do to lack of facilities they received only medical treatment. To our surprise all three patients improved slowly and at the end of six months to a year, they were walking normally. The X-Ray were improved, but remained with the deformities. At that time in the medical bibliography there was no case of spinal cord compression due to Pott Disease treated only medically. Now there are some reference to the subject, but most specially, it will operate patients with paralysis due to Tuberculosis of the Spine. We think it is important to remember that a good medical treatment will improve such patients. One of our patient had two tuberculous abscesses, that were drained in the inguinal regions. His improvement was slow and did not have relation with the drainage. Isoniacide, was given at the dose of 300 mgms a day, for the all course. Streptomycin, only during the first three months. One gram a day the first month, and every other day the second month. The third month only twice a week.-

PC. 44

NECROTIZING SOFT TISSUE INFECTIONS IN THE VOLCANIC CATACLYSM OF COLOMBIA

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In the evening of November 13, 1985, a Plinian eruption of Nevado del Ruiz volcano in Colombia ejected 3.5×10^{10} kg of mixed dacitic and andesitic tephra during a 20 minute interval. Melting of the icecap generated huge lahars that devastated the town of Armero with loss of about 23,000 lives. Of the survivors, approximately 4,500 were injured; 1,500 required hospitalization, the large majority with severe and progressive soft tissue injuries of the so called gangrenous cellulitis and necrotizing fasciitis type. These necrotizing infections appeared extremely aggressive and were associated with high mortality and elevated amputation rates. They resulted from lacerations and abrasions, prolonged immersion in the mudflow, and delayed adequate therapy. They were caused by anaerobic and aerobic organisms in synergistic-type combinations; fungal infection of the zygomycetic type were demonstrated in the more severe and rapid progressing lesions.

Illustrative pathology and microbiology of severe cases are presented, together with the results of studies on the composition of the volcanic mudflow.

PC. 45

BACTEREMIA. A STUDY OF 144 CASES
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From August 1st, 1983 to January 31st, 1986, 144 cases of bacteremia were studied in 129 pts. All charts were reviewed for microbiological findings, clinical presentation, predisposing factors, primary focus of infection, treatment and outcome. Gram positive bacteremia was defined as 2 or more positive blood cultures. Gram negative bacteremia was defined as one or more positive blood cultures. Pediatric pts. and transient bacteremias were excluded. From all cases 67 (52%) were male and 62 (48%) were female. Age ranged from 16 to 92 yrs (mean 53 yrs). 75 bacteremias (52%) were nosocomial and 69 (48%) were community acquired. 118 cases were considered as primary bacteremia (12%) and 126 as secondary bacteremia. The G-U tract followed by intra-abdominal and skin and soft-tissue infections were the most common primary sites of infection - *E. coli* and *S. aureus*, followed by anaerobes were the most common etiologic agents. The previous use of antibiotics, urinary catheters and respiratory devices were the most prominent predisposing factors. Death rate was 19%. Early diagnosis and better antimicrobials continue to improve survival in bacteremia. Invasive procedures and unrestricted use of antibiotics are still determinant predisposing factors

PC. 46

CHANGING PATTERNS OF SUSCEPTIBILITY TO ANTIMICROBIALS
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From December 1st, 1984, to August 31st, 1985, 1164 bacteriological isolates at the Centro Médico de los Andes (Bogotá) were tabulated in order to analyse patterns of antibiotic susceptibility and to determine antibiotic policy for the coming years. Speciation and sensitivity tests were processed using MS-2 analyser (Abbott Labs.). In general, 80% or more of enterobacteriaceae, *P. aeruginosa* and *A. calcoaceticus* were susceptible to aminoglycosides (Gentamicin, Tobramycin and Amikacin); Gentamicin showed lesser activity against nosocomial strains of *P. aeruginosa* and *A. calcoaceticus* (75%). Cephalothin keeps good activity against *E. coli*, *K. pneumoniae*, *K. oxytoca* (more than 80% of strains susceptible), but its activity decreases with nosocomial *P. mirabilis* and *C. freundii* (70%). On the other hand cefoxitin when compared to Cephalothin did not improve its performance for aerobic organisms except for *M. morgani*. Ampicillin appeared useless for most isolates (60% or less sensitive). Only 14% of *P. aeruginosa* isolates were sensitive to Carbenicillin. An uncommonly used drug, Chloramphenicol, showed a remarkable good activity for all enterobacteriaceae, except for *K. oxytoca*. In UTI isolates Ampicillin appears useless for most isolates. *E. coli* (both nosocomial and community acquired strains) are only 60% sensitive. Both Nalidixic acid and Nitrofurantoin are active against more than 90% of *E. coli* strains in UTI. Surprisingly only 75% of *E. coli* isolates were sensitive to trimethoprim - sulphamethoxazole. Methicillin-resistant *S. aureus* was found in 5% of community and 12% of nosocomial strains. In summary, susceptibility patterns of most bacterial isolates in our hospital to aminoglycosides, 1st and 2nd generation cephalosporins demonstrated a still enduring activity, 3rd generation cephalosporins and ureidopenicillins should be reserved for the occasional multiresistant strain. The growing resistance of *E. coli* strains to trimethoprim-sulphamethoxazole in UTI should be observed closely. Methicillin-resistant *S. aureus* is starting to show up in our scenario and is a worrisome phenomenon with serious economic implications for third world countries.

PC. 47

AIDS IN BOGOTA

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Since April 1984 full blown AIDS has been diagnosed in 4 homosexual men at the Centro Médico de los Andes, Bogotá. All patients had marked lymphopenia, cutaneous anergy and profoundly impaired cellular immunity. Opportunistic infectious developed as follows: Case 1) multiple hepatic abscesses due to *Actinomyces israelii*. Case 2) Disseminated *Mycobacterium avium-intracellulare* infection, disseminated herpes simplex infection, molluscum contagiosum, pulmonary and meningeal cryptococcosis. Case 3) Severe oral and esophageal candidiasis. Case 4) Disseminated histoplasmosis. All 4 pts also had a positive serum antibody test for HTLV-III (ELISA). Positivity was confirmed by Western blot. 3 patients have died so far. In Case 1, follow-up was lost.

In addition, we tested 41 serum samples of apparently healthy homosexual men for the presence of antibodies to HTLV-III. 8/41 (19.5%) have been positive. All positive cases have been confirmed by Western blot. Two of these cases have chronic asymptomatic lymphadenopathy (more than 3 months), that is currently under study. These observations suggest that AIDS is a growing problem in our city. The exponential rise in the numbers of cases of this disease in other countries should recall the attention of scientists and health authorities in our country in order to apply preventive measures.

PC. 48

OSTEOMYELITIS. ANALYSIS OF 13 CASES.

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From December 1st, 1983 to October 31st, 1985, 13 cases of osteomyelitis were seen at the Centro Médico de los Andes, Bogotá. Diagnosis was made in all cases through clinical signs, X-rays, bone scan, biopsy and microbiological findings. There were 8 male and 5 female pts. Three cases were hematogenous, 2 occurred in diabetics and 8 were related to a contiguous focus in infection. Monomicrobial infection was documented in 7 cases (54%): *S. aureus* 2, *P. aeruginosa* 2 and *S. liquefaciens*, *E. coli*, *M. tuberculosis*; 1 case each. Polimicrobial infection was demonstrated in 6 cases (56%): *Y. enterocolitica*, *E. cloacae*-*S. aureus*, *S. marcescens*-*S. aureus*, *S. liquefaciens*-*S. aureus*, *Peptococcus* sp. - *S. aureus*, *B. fragilis*, *Peptococcus* sp. and *K. oxytoca*, *E. coli*, *P. stuartii*, *Peptococcus* sp.. Surgical debridement combined with I.V. antimicrobials directed to the specific organisms was the treatment for all pts. Treatment ranged from 4 - 8 wks. 12/13 cases had the osteomyelitis arrested after the initial treatment. Follow up was for 3 to 18 months (mean 7.7 months). These observations demonstrate the frequent polymicrobial nature of osteomyelitis (46% of our pts). It also points out the importance of bone biopsy before the initiation of therapy. The ultimate criteria for clinical and bacteriological cure of osteomyelitis will require prolonged follow up.

PC. 49

CULTURING INDWELLING CATHETERS. A COST/EFFECTIVENESS STUDY
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From January 1st, 1984, to June 30th, 1985, 241 indwelling catheter tips were sent for culture at the Centro Médico de los Andes (Bogotá). 169 catheters were used exclusively for TPN, whereas 72 were used for routine I.V. solutions. Simultaneously blood cultures were obtained in 69 patients who were febrile when the catheter was removed. Bacteremia was defined as catheter related when the same organism (s) was isolated from the catheter tip and the blood cultures in the absence of other documented infectious foci. Catheter related bacteremia was found in only 3 cases (1.8%) of all indwelling catheters (S. aureus 2, C. albicans 1). All 3 patients were on TPN. Contamination of catheter tip was found as follows: 54% S. epidermidis, 11% S. aureus, 6% K. pneumoniae, 4% A. calcoaceticus and P. aeruginosa. Culturing catheter tips routinely as a diagnostic tool for bacteremia represented \$Col. 674.800.-. If we consider that only 3 catheter related bacteremias were documented during the study period, the cost per bacteremia was \$Col. 224.935. This study suggested that routine culture of indwelling catheter tips remarkably increased costs of medical care and did not contribute significantly to improve the diagnosis of catheter related bacteremia. Culture of the catheter tip is required when bacteremia is suspected and other foci of infection have been ruled out.

PC. 50

INFECTIOUS COMPLICATIONS IN PATIENTS WITH CEREBROSPINAL FLUID SHUNTS

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We review 416 patients with one or more cerebrospinal shunts. Diagnostic procedures are described. Frequency, sex, shunt, time of appearance after the procedure, microbiological isolates, clinical presentation, treatment and evolution are reviewed.

The main conclusions from our dates are:

- 1) The frequency of infection after the shunting procedure has been 20% in our series.
- 2) Staphylococcus epidermidis account for 45% of the total infections, followed by staphylococcus aureus (26%) and enterobacteriaceae (15%). The frequency of colonization by gram negative bacilli (enterobacteriaceae) has been higher than in studies previously reported.
- 3) More than 25% of the patients did not show clinical manifestations related to the central nervous system but presented as sepsis without localizing signs, fever of unknown origin or immune-complex mediated glomerulonephritis.

PC. 51

SERIOUS MALARIA DURING PREGNANCY

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Malaria infection during pregnancy is one of the most serious medical problems due to the risks involved as it can cause abortion and stillbirth, mainly in non-immune pregnant women. Plasmodium falciparum (PF) infection is a particular problem because the drugs used to treat this infection may produce fetal malformation if administered during early pregnancy - (Pyrimethamine) or abortion and premature labor (Quinine).

Results are present from the 5 slide-confirmed malaria cases of pregnancy with 10, 18, 30 and 32 weeks for gestational age respectively seen during the period March 1982, February 1985 at San Juan de Dios Hospital in Bogotá, Colombia.

Patients aged 15 years to 32 years, three were caused by PF, one by P. Vivax and one were mixed infection. Four patients acquired infection in areas that have been demonstrated to be chloroquine resistant PF infections. Three presented a moderate grade of parasitaemia, one slight and one severe. Anemia was present in all cases (hemoglobin 5,3 to 9,0g/dl)

A pregnant 15 year - 10 weeks pregnancy with malarial hepatitis received quinine I.V. 10mg/kg daily during seven - days due to severe parasitaemia and the liver damage. She was negative within 36 hours and was discharged on ninth-hospital day. After 21 days the patient presented recrudescence with moderate parasitaemia (6.500 PF Parasites/mm³). The cure was obtained with a retreatment consisting of Amodiaquine (1,5 g) associated with Sulfadoxine (1,5 g) and Pyrimethamine (75 mg) combination administered simultaneously orally, with folic acid supplementation. We emphasize that this 15 years old patient received quinine as a life-saving treatment. Amodiaquine associated with SP combination is - an effective treatment of Chloroquine resistant PF infection in pregnancy. The potential risk of this treatment are also acceptable despite its theoretical risk of teratogenicity.

In all patients the pregnancy continued normally with on time delivery and normal new born. There was no evidence - of teratogenicity in the long term followings (20 months) of children born from mothers of this study.

PD. 52

DATA BASE INTERNAL MEDICINE SYSTEM (D.B.I.M.S.)

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Objective: D.B.I.M.S. design five model views: 1. Ambulatory patients diagnostic tabulation (A.F.D.T.) 2. Clinical investigation. 3. Financial estimates. 4. Heuristic to "Medical intelligence" 5. Clin. Hist. "on line". Patients and Methods, lapse: 1_VI_84, 31_V_85, Patients 576; men 251; women 325; consultations 1549; diagnostics 349; Diagnostic is inferred according to: patient's symptom is sign for the physician, and is submitted to boolean test. These procedures give three diagnostic kinds: initial, intermediate, and definite if it's evident.

D.B.I.M.S. construction: File or relations: 1. Clinical histories: heap file. 2. Daily consults & Relation: Dr. code, patient's domain, diagnostic (three possibilities), other. 3. Diagnostic alphanumeric code & Relation: 7050 entries. Bibliography: Harrison's Principles of Internal Medicine 10th e., Merck Manual 13th e., examples: Key 9 Abdom pain (dolor) → E_5 (initial diagnostic); K_2266 → Gastritis Atrophic → E_307 Al_Dl (definite). 4. Every code has it's definition: > Relation. 5. Decoding E: Relations > 4274 entries. Randomized examples: K_3430 → E_333F → Henoch Schönlein p; K_3828 E_358 J4A Kennedy synd → Meningioma_ol-factory groove: one side optic atrophy, other papilledema. Theoretical hardware basic parameters (T.H.B.P.) Wiederhold Gio Database Design 2nd e. 1.983 Mc Graw.

Software: 1. Clinical histories: usual store and handle. 2. A.F.D.T. daily collection: heap file. WSAM (virtual store access methods), language PL/1, dBase II. Diagnostic conversion to CC numeric code: Isam (sort). Program in PASCAL, PL/1. 4. Decoding (E): Heap file or hash file. 5. Model view (3) MUMPS.

Actual projects: 1. Cardiopathy in elder than 64. 2. Auto test in Rheumatology (Ciba-Geigy) 3. Superspecialities E codes: Cancer, Congenital, Cardiopathies. 4. Morbidity indexed: lapse 1_VI_84 to 31_V_85. 5. Morbidity indexes older than 79. 6. Therapeutical drugs codes. 7. Antihypertensive treatments comparison.

PD. 53

COMPUTERS AT THE INTERNAL CLINIC OF THE UNIVERSITY HOSPITAL.

Pacovsky V., Malik M., Svacina S., Hovorka R., Third Internal Clinic, Medical Faculty and University Hospital, Prague, Czechoslovakia. The third Internal Clinic of the University Hospital, Prague, is equipped with various computational environments. Besides small desk-top computers, this includes both the direct access to a remote main frame computer and a multiuser super-microcomputer in Clinic's Computing Unit.

The clinic is mainly oriented to metabolic diseases. For this reason, the developed computer support and the projects under development cover above all the needs of the intensive metabolic care unit: Specialised expert systems evaluate parameters of diabetical patients and compute optimal insulin dosage. A supporting system converts the insulin dosage established by insulin pump into the optimal set of subcutaneous injections. Other support systems treat the metabolic balance, guide the use of a sophisticated artificial pancreas, evaluate the acid-base state, etc. Computer models of biomedical systems are also developed. The use of such models reaches immediate clinical relevance, specially in the area of artificial organs applications. At our clinic, the models of patient-artificial pancreas and heart-pacemaker interaction have been created.

The main frame computer has been employed when creating a general data base system recording uniform data of all inpatients and specialised data base systems used to collect clinical data of medically selected patients. This computer is also used for statistical and other service purposes.

In the cooperation with the computing department, our computers are used at teaching.

PD. 54

SOCIO-ECONOMIC PROFILE OF THE MEDICAL STUDENT ANTIOQUIA, UNIVERSITY. 1983.

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As part of a general University questionnaire involving twelve thousand students, descriptive study of the social, cultural, economic and academic aspect of 670 medical students (43% of the enrolled). Their opinion regarding some services and academic resources was also taken into account.

The statistical techniques of analysis employed were: proportion rates, ratios and arithmetical means.

Results: Mean age was 23 ± 3.6 , 79.4% were males and 89.4% single. In 20% of the sample the expenses are paid by their families and 85% are residents of the city, as a group 15 have insufficient living allowances. 25% belong to big family groups and one fourth have jobs different to Medicine and only one fifth have degrees above the classical High School levels.

The mean cumulative credits is 3.7 ± 0.4 per semester on a 0 to 5 scale. One out of every seven student do not consider essential to attend lectures, the most common statistical indicator of the devoted to study per day being 2 to 3 hours.

PD. 55

FORMATION OF THE SPECIALIST IN INTERNAL MEDICINE IN THE UNIVERSITY OF ANTIOQUIA, MEDELLIN, COL. Robles Pablo-MD. Hoyos Daniel-Est. Medical Education Department of Medicine of the University of Antioquia, Medellin. Colombia.

In base to the register in the Medical Education Department a descriptive and retrospective study of the egressed physicians in the program of internal Medicine, having as objectives to know the social features, some parameters of efficiency in the training including financial sources and the offered resources.

We appointed a relation of egressed physicians of 38 for 10.000 inhabitants in Antioquia. The mean of acceptance to the program was 24 + years, eight out of each ten are men, two thirds are married, the portion of graduates of the University of Antioquia is seven out of ten. Their performance in the program measured in a scale 3.5-5.0 was 4.0 and in the admission examination their rating was above average. Their monthly income varied between U.S.\$100 and U.S.\$140, but some have to work overtime for attending their family loads.

The yearly average graduates until 1984 was 4.2, being the third program in order of frequency. The majority are employed in the University of Antioquia, in the Social Security Institute and Cajanal.

PD. 56

ATTITUDES TOWARD THE GENERAL MEDICINE AND POSTGRADUATE OF THE MEDICINE STUDENTS OF THE UNIVERSITY OF ANTIOQUIA IN 1985.

Robles Pablo. Md. Hoyos Daniel. Est. Medical Education Department of Medicine of the University of Antioquia, Medellin- Colombia. Batista Enrique. Ph.d Investigation Faculty of Education.

A descriptive study was realized in 360 students from different semesters in the Medical School of the University of Antioquia, using a precodified instrument, previously valuated by a pilot study.

The main objective of the inquest was to know the attitudes toward general medicine and postgraduate practice on our environment. The sample of students was selected among beginners, advanced intermediates and interns. The techniques of analysis were descriptive (rates, ratios, arithmetic means, etc) or inferentials (correlations, chi-square tests, analysis of variance, etc.) The results of the socio-demographic variables identified a frequency of males, singles, large family groups and a good proportion with workable responsibilities, product of a difficult socio-economic condition.

50% of the students were satisfied with the teaching received, 25% were indifferent and the rest were unsatisfied. 9 of each 10 believed specialty was necessary; 54% of students said the preparation received was adequate to practice medicine, the rest believed it was insufficient. Regarding the preference for certain specialties, they quoted the traditional basics; neurosurgery and neurology were de fourth and sixth.

PE. 57

TREATMENT OF TAENIASIS AND CYSTICERCOSIS WITH PRAZICUANTEL
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 Medellín, Colombia

In 60 cases of Taeniasis due to *T. saginata* or *T. solium*, total curetion was obtained within a single dose 5 mg per kg in half and 10 mg/kg in the other half. There were no colic effects and the parasites were excreted completely destroyed, caused the patients no symptoms.

In 27 cases caused by *Hymenolepis nana* treated with a single dose 25 mg/kg half of the patients and 15 mg/kg the other half. We obtained a curetion of 81.5%. Three cases if *Hymenolepis diminuta* were cured with 25 mg/kg.

Our experience with the treatment of cysticercosis has been very extense during the last 6 years. We have studied several treatment protocols and in big variety of clinical forms the efficiency of the medicatum has been good with dose between 30 and 50 mg/kg/day for 6 days. In the cerebral forms we found treatment more efficient in the intraparenchymal forms than those located in CNS cavities. Some forms of medular compromise as those with ocular compromise have not responded satisfactorily to treatment.

The dose for neurocysticercosis is 50 mg/kg/day divided in 3 administrations/day and for a total of 14 days. This dosage was more successful than that obtained with shorter treatments and it was as efficient as dosis as high as 75 mg/kg/day during 10 days. There was good tolerance to both dosifications.

The second dosification (75 mg/kg/day had the benefit of shorter time of hospitalization). Hospitalization during treatment is always indicated for close observation of the patient and possible neurological consultation. We have also associated esteroides to the treatment with PRAZICUANTEL.

Our general experience with a total of 72 patients can be summarized as follows: 1) Total recovery or notable symptomatic recovery was seen in 60% of the cases 2) In 60% of the intraparenchymal brau cysts, they have disappeared evidence in the CAT scan 3) The secondary effects in general were very slight and they were present in a third of treated cases 4) Mortality was only 5.3%.

PE. 58

GROWTH OF DIFFERENT SPECIES OF LEISHMANIA AMASTIGOTES IN A CONTINUOUS HUMAN MACROPHAGE CELL LINE U937.(STUDIES ON METABOLISM AND DRUG SENSITIVITIES)
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Growth and drug sensitivities of different strains of leishmania were evaluated using a new in-vitro method of infecting a human macrophage cell line (U937) with promastigotes of *L.b. braziliensis*, *L.b. panamensis*, *L.m. mexicana*, *L. donovani*, and *L. tropica*. 2 days prior to infection, 1×10^6 U937 cells were differentiated with phorbol myristate acetate. These cells were infected with 2.5×10^7 stationary phase promastigotes for 2 hours. The monolayers were washed and incubated at 37°C with medium alone or medium containing 9-deazainosine (9-DINO), Allopurinol-Riboside (AR), Formicyn B (FB) or Sodium Stibogluconate (SS). Medium was changed every 2 days. Cells were fixed and stained at different times and the percent infection and the number of parasites per cell were determined by light microscopy. The percent infection in control cultures at two days was 82-95%. At day four 90% of promastigotes had transformed to amastigotes. The total number of amastigotes increased daily through day 8, while the number of promastigotes per host cell decreased. Amastigotes had a doubling time of 96 hours. In the drug assays, the percent of control growth vs drug concentration was determined. ED₉₀ values were 5, 1, 0.5 and 1 µg/ml for AR, 9-DINO, FB and SS respectively. Using radiolabelled 9-DINO, we determined the presence of adenosine nucleotide analoges in the extract of the infected cells but not in the uninfected, showing that this purine analogue undergoes similar metabolism in the amastigote growing in U937 cells as in the promastigote. We conclude that (1) a continuous human macrophage line (similar to the natural host) can be infected with different species and strains of Leishmania. (2) this system eliminates the need to culture peritoneal macrophages or peripheral blood monocytes as host cells, and eliminates the need to obtain amastigotes from animal tissues. And (3) the amastigotes in this system divide every 96 hours, they are metabolically active, and their growth can be inhibited by known antileishmanial agents.

PE. 59

CLINICAL, COMPUTARIZED TOMOGRAPHY AND IMMUNOLOGICAL CHARACTERISTICS OF CYSTICERCOSIS.

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Cysticercosis is a parasitic disease produced by the larval stage of the *Taenia solium*. From october/81 to january/86, 102 patients with cysticercosis have been prospectively studied in Bucaramanga.

This report summarizes the clinical features of this disease and its radiological and immunological characteristics.

The mean age of the patients was 32.5 yr. ranging from 4 to 75 yr. 55% of the patients were between 21-40 yr. There was a predominance of females (61%). The great majority (98%) had neurocysticercosis. The main clinical manifestations were: convulsions (64.7%); intracranial hypertension (19.6%); headache non related to intracranial hypertension (35.3%), meningeal signs (5.9%). There were 4 patients with subcutaneous cysticercosis and two patients with ocular involvement. Seven patients were asymptomatic.

Computed tomography was performed in 80 patients with neurocysticercosis being positive in 79 (98%), 65% had cysts, either single or multiple; 54% showed single or multiple calcifications. Hydrocephalus alone was present in 28.8% of the patients. Mixed insagens were seen in 55% of the cases studied by CT scan.

In 54 patients, EEG was done, being abnormal in 42(77.7%).

Determination of antibodies against cysticercal antigens were performed by indirect hemagglutination (IH) and lately by ELISA.

In 78 patients, the IH was positive in 43 (55.8%). ELISA was done in serum in 83 patients, being positive in 73 (88%). In cerebrospinal fluid, antibodies by ELISA were present in 65% of the cases examined.

Cysticercosis is a disease frequently seen in Santander. By combination of clinical suspicion, computed tomography and immunological studies is possible to establish an accurate diagnosis in almost all cases.

PE. 60

EPIDEMIOLOGICAL STUDY OF CYSTICERCOSIS IN A RURAL AREA (EL NARO-SANTANDER DEL SUR).

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The great majority of the studies in cysticercosis, in Colombia as well as in other countries of Latin-America, have been performed on autopsy material or in neurological services of big medical centers. The purpose of this study is to analyze the presence of cysticercosis in a rural town; the epidemiological factors important in the transmission of the disease; its correlation with the presence of antibodies in serum against cysticercal antigens and the value of serological methods to detect individuals with neurocysticercosis, the main organ involved in this entity.

A Census of the town was performed and an epidemiological survey of 1799/2274 inhabitants was completed, paying attention to the following factors: age, sex, occupation, quality of housing, source of drinking water, mode of excretion disposal, toilet facilities, animals kept in or around the house and the elimination of taenia. An indirect hemagglutination test (IH) to determine antibodies against cysticercal antigens was performed in 1734 individuals. A computerized tomography (CT scan) was taken in persons with positive antibodies. The socio-economic characteristics of the town were precarious: only 40% had aqueduct, 80% did not have toilet facilities, 95% lacked adequate excretion disposal, 48% had pigs around the house and 15.5% gave a history of taenia expulsion. 170(9.44%) showed antibodies against cysticercal antigens by IH, titers ranging from 1:2 to >1:64. Only the history of taenia expulsion showed positive correlation with the presence of antibodies (24% in the positive group vs 14.5% in the negative group). 21 (1.2%) individuals showed high titers (greater 1:32). 5/16 persons with titer > 1:32 revealed changes compatible with neurocysticercosis by CT scan. None of 7 individuals with lower titers showed positive CT scan changes. Five of 6 persons with titers 1:32 and neurological changes consistent with neurocysticercosis had positive scans, whereas none of 5 individuals with neurological manifestations and low titers showed scan changes.

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