

Summaries of Articles

Investigations

Survey on Prevalence of Cardiac Disease and its Risk Factors in Adults in Turkey: 4. Blood Lipid Levels

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Prevalence of various risk factors were sought in a representative sample of Turkish adults during a survey of 3689 subjects aged 20 years and over. This report describes data on plasma lipids (total cholesterol, TC, and triglycerides, Trg) which were determined by a portable analyzer (Reflotron). Mean TC values (in mg/dl) were low in the age group 20-29 years: 149 in men, 151 in women. Middle-aged men reached a plateau at a level of 188 mg/dl, whereas women attained their peak (204 mg/dl) in the age group 50-59.

Participants from the Marmara, Aegean and Black Sea regions combined exhibited a mean level 10.3 mg/dl higher than those of the remaining four regions ($p < 0.01$). Since a TC concentration of 240 mg/dl or over was found in % 6.8 of the sample (95 % confidence interval 6 and % 7.7), it was estimated that approximately 2.0 million Turkish men and women may be categorized as such.

Serum Trg disclosed a lognormal distribution. The median and 95 percentile values were 119 and 314 mg/dl in men, 97 and 250 mg/dl in women. This indicated that, while Turkish men had slightly elevated Trg values in international comparisons, our women had higher levels than even British women. Participants from urban areas showed a significantly higher mean Trg concentration than those from rural areas. A strong relation existed between body mass index and Trg levels in Turkish adults. Hypertriglyceridemia (defined as >200 mg/dl) prevailed in % 9.8 of adult women and % 14.8 of men.

Balloon Dilatation For Discrete Subaortic Stenosis: Immediate Outcome And Hemodynamic One-Year Follow-Up

T. Okay, İ. Dindar, M. Özdemir, N. Çağlar, Y. Başaran

Six patients with discrete subaortic stenosis (DS) underwent percutaneous balloon dilatation over a 15-month period. The mean age was 16 years. Aortic and left ventricular outflow tract pressures were simultaneously recorded and left ventriculography and aortic root angiography were done. The mean gradient was 77 ± 22 mmHg. In two patients 1+ and in another patient 2+ aortic insufficiency was present. Balloon dilatation was performed with 3x10 Trefoil in three and 3x12 Trefoil in three patients. The mean gradient immediately after dilatation was 24 ± 13 mmHg. Aortic insufficiency grade did not change. Follow-up cardiac catheterisation was performed in four patients 12 months after balloon dilatation. The mean gradient was 26 ± 8 mmHg. In patients with aortic insufficiency the grade did not change. Based on our results, and the progressive nature of the DS, balloon dilatation may be a preferable initial procedure in the treatment of isolated DS, in view of the morbidity and mortality associated with surgery.

Radionuclide Assessment of Left and Right Ventricular Functions in Patients With Tetralogy of Fallot

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Using 10-15 mCi ^{99m}Tc -labelled red blood cells, ECG-gated radionuclide ventriculography was performed in 16 cyanotic pediatric patients with tetralogy of Fallot to assess the right and left ventricular function. Phase and amplitude analysis of scintigraphic images and multiharmonic Fourier analysis of time activity curve were generated. Mean ejection fraction (EF) of right and left ventricles were 28 ± 11 % and 48.9 ± 10 %, respectively. 50 % of patients had decreased right ventricular EF values. Systolic and diastolic functional parameters were also calcu-

lated. Right ventricular 1/3 EF, 1/3 FF (filling fraction), PER (peak ejection rate), 1/3 ER (ejection rate), 1/3 FR (filling rate) values were lower than those of normals ($p < 0.005$). 1/3 FF value of left ventricle was decreased in comparison to normal ($p < 0.05$). TPE (time to peak ejection)/TPF (time to peak filling) and PER/PFR ratios were increased. Systolic ejection time interval of right ventricle was prolonged and difference of phase angle among two ventricles was increased. Right ventricular standard deviation of phase histogram was enlarged. TPE/T values were higher than normals for both ventricles. TPF/T values were in the normal range.

Systolic and diastolic parameters used in the present study may be valuable for the quantitative evaluation of the right and left ventricular function.

Assessment of Mitral and Aortic Flows in Systemic Hypertension with Continuous Doppler

A. Işık, C. Lüleci, A. Demir, H. Çeliker, H. Arslan, O. Ayhan

Properties of transmitral and aortic flow velocities of 32 patients were compared with 17 controls in order to evaluate systolic and diastolic abnormalities in systemic hypertension. It was observed that early and filling peak velocities and their rates were abnormal in hypertensive patients in transmitral flow samples determined by Doppler. It was ascertained that there was a significant increase in AVP ($p < 0.0005$) and a significant decrease in E/A ratio ($p < 0.0005$). In addition, decrease in compliance with rapid filling and increase in atrial filling time (AET) with a greater atrial volume percentile (AFV/TFV) were found ($p < 0.05, p < 0.0005$). Increase in isovolumic relaxation time (IRT) ($p < 0.0005$) and decrease in rapid filling index (RFI) were observed from other diastolic function data ($p < 0.0005$). An increase in aortic peak velocity and peak gradient was found. On the other hand, it was observed that the systolic function parameters, peak acceleration (PA), isovolumic index (IVI) and left ventricular ejection time index (LVETI) increased significantly ($p < 0.0005, p < 0.005, p < 0.005$; respectively). In both groups, in respect to age, aortic peak velocity increased, E/A rate decreased. In hypertensive patients, early and late diastolic peak velocities and their rates and peak aortic velocity

were found abnormal. These values when correlated with age were abnormal in both groups. Cardiac functional abnormalities can be detected non-invasively by Doppler.

Primary Total Repair for Cyanotic Congenital Heart Diseases in Saudi Adults: A 9-Year Retrospective Analysis *H. Raffa, Abdool A. Sorefan, Mohamed T. Kayali*

Fifty-eight adult patients with cyanotic congenital heart anomalies were encountered between 1981 and 1990 among 1,375 adults who underwent surgery for congenital heart diseases. Eisenmenger syndrome was not included in this retrospective study. The presentation form, investigations, spectrum of pathology, types of the primary surgical repair performed, surgical results and follow-up are discussed in this analysis.

Prediction of Pulmonary Artery Pressures by the Ratio of Pulmonary to Systemic Pressures Derived from Pulsed Doppler Echocardiography

O. Sancaktar, A. Rıza Kazazoğlu, T. Okay, S. Aksöyek, M. Özdemir

We used a new method for the estimation of the ratio of pulmonary to systemic pressures by pulsed-wave Doppler echocardiography. Sixty-six patients undergoing cardiac catheterization, aged 7-62 years, were studied. These patients' right and left ventricular outflow velocity were examined by pulsed Doppler technique.

Precjection period (PEP), ejection time (ET) and mean acceleration to peak velocity (ACCm) were measured on each wave form. The expression: $F = (PEP \times ACCm) / ET$ for right and left ventricular outflows was calculated from the Doppler wave forms generated in each outflow which are the records of the ejection flow dynamics of each ventricle. The quotient of (F for the right outflow) / (F for the left outflow) was used to express the degree of pressure dependent variability between each subject's right and left ventricular outflow tracings.

The ratio of the right to left ventricular outflow F indexes was almost identical to the ratio of systolic

and mean pulmonary to systemic pressures ($r=0.97\pm0.05$; $r=0.96\pm0.07$). The product of the ratio of right and left ventricular outflow F indexes and arm systolic pressure gave an accurate estimate of systolic pulmonary pressure. It is concluded that this method can be successfully used for the noninvasive assessment of pulmonary pressures.

The Effects of Fish and Fish Oil Consumption on Plasma Lipoproteins

B. Şengün, B. Komsuoğlu, B. Görçin, Ekrem L. Duman, H. Kızılkaya, A. Bayram

The relationship between fish consumption and serum lipid levels were studied in 95 healthy persons. Two groups were formed based upon their fish intake: 27 subjects who ate no fish (control group), and 68 subjects with an average consumption (trial group) of >40 gr/day. The average level of cholesterol in the trial group was 196.3 mg/dl, high density lipoprotein-cholesterol (HDL-C) 53.9 mg/dl, low density lipoprotein-cholesterol (LDL-C) 120.4 mg/dl. In the control group, total cholesterol was 222.4 mg/dl, HDL-C 41.6 mg/dl, LDL-C 148.2 mg/dl (all significantly different). The results support the conclusion that fish consumption affects serum cholesterol fractions.

Assessment of Diastolic Function in Coronary Artery Disease with Doppler Echocardiography

Y. Başaran, M. Özdemir

Importance of Doppler transmitral diastolic flow velocity for evaluation of left ventricular diastolic performance has been pointed out in recent studies. In this study transmitral diastolic flow pattern indexes were assessed in 70 patients with coronary artery disease to determine the relationship between Doppler-derived flow velocity parameters and left ventricular diastolic pressure. Differences in transmitral flow pattern parameters in patients with previous myocardial infarction and in the presence of left ventricular aneurysm is demonstrated. High left ventricular end-diastolic pressure is best correlated with E/A ratio ($r=0.62$).

Among the transmitral flow velocity parameters, E/A, RFI, NMFR were most sensitive while DR and

1/3 FF were most specific to show high LVEDP. It is concluded that early determination of left ventricular diastolic dysfunction is possible with great accuracy by this non-invasive method in coronary artery disease.

Identification of High Risk Coronary Anatomy by Means of Exercise Test Variables

V. Sansoy, D. Güzelsoy, İ. Eren, A. Berkyürek, M. Platin, M. Özcan, N. Gürses, C. Demiroğlu

To determine whether exercise test variables could detect the presence of left main, three-vessel or double-vessel coronary artery disease involving left anterior descending artery (LAD), 119 exercise test variables were compared with the findings of coronary arteriography in 350 patients, of whom 200 had a previous myocardial infarction (MI).

$\Delta ST/\Delta HR$ was the most sensitive variable for detecting left main coronary artery (LMCA) disease in the patients without a previous MI ($n=150$), with a sensitivity of 100% and a specificity of 62%. It was also the most sensitive variable for the detection of three-vessel disease and three-vessel or two-vessel disease involving LAD in this group with sensitivities of 84% and 79%, and specificities of 62% and 62%, respectively. In the group of patients with a previous anterior MI ($n=100$), the increase in systolic blood pressure recovery ratio (SBP-RR) was found to be the most sensitive variable for identifying the patients with LMCA or three-vessel disease and LMCA, three-vessel disease or two-vessel disease involving LAD with sensitivities of 63% and 49%, specificities of 52% and 76%, respectively.

In the group of patients with a previous inferior MI ($n=100$), $\Delta ST/\Delta HR$ was found to be the most sensitive variable for detecting the patients with LMCA or three-vessel disease and LMCA, three-vessel disease or two-vessel disease involving LAD with sensitivities of 71% and 55%, and specificities of 74% and 74%, respectively. It is concluded that in the assessment of an exercise test the use of $\Delta ST/\Delta HR$ and SBP-RR in addition to the traditional variables increases the diagnostic yield of the test for identification of high risk coronary anatomy.

New Myocardial Imaging Agent, Tc 99m MİBİ: Clinical Application, Advantages and Limitations

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The diagnostic value of a new myocardial imaging agent, technetium-99m hexakis-2-methoxy-2-isobutyl isonitrile (Tc 99m MİBİ), in coronary artery disease (CAD) was investigated in 12 subjects. Advantages and limitations of MİBİ were reviewed. Exercise myocardial perfusion study with Tc 99m MİBİ and selective coronary arteriography were performed in all subjects. Tc 99m MİBİ was found to be negative in all 3 patients with normal coronary arteries. In 8 of 9 patients with angiographically documented CAD, perfusion defects were shown in one or more regions (sensitivity 88 %). Liver uptake of Tc 99m MİBİ was considerable, and high background caused by high liver activity might interfere with image interpretation both qualitatively and quantitatively. We concluded that Tc 99m MİBİ provides a reliable method of assessment of CAD with a high sensitivity and, probably, a high specificity, but it has some disadvantages: high cost, high liver uptake and the requirement for a separate day resting injection.

Review

Cardiovascular Side Effects of Antidepressant Drugs

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The electrocardiographic changes, conduction disturbances and orthostatic hypotension that may result as an adverse effect to antidepressant medications were reviewed. In addition to monoaminoxidase inhibitors and lithium, particular consideration was given to heterocyclic antidepressant drugs.

Case Reports

Successful Thrombolysis on a Saint Jude Medical Prosthesis in the Aortic Position

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T. Sarioğlu, D. Güzelsoy, C. Demiroğlu*

Thrombotic dysfunction of cardiac valve prostheses is relatively frequent despite a well-maintained anti-coagulant therapy. In this report, successful lysis of thrombosis on a St. Jude Medical prosthesis in the aortic position was shown by means of clinical and echocardiographic grounds in a patient.

Surgical Treatment of Straddling Tricuspid Valve Associated with Double Outlet Right Ventricle

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Straddling atrioventricular (A-V) valve is a rare congenital anomaly which further complicates the surgical correction of accompanying cardiac pathologies. In November 1987, a 4-year-old boy with the diagnosis of double outlet right ventricle, atrial septal defect, ventricular septal defect, pulmonary stenosis and straddling tricuspid valve was operated in our clinic. Complete correction of the pathology was achieved after repair of the straddling by using papillary muscle transfer technique. At 29 month follow-up he was in NYHA class 1, and the tricuspid valve proved to be normal echocardiographically.

Blood Cyst of the Tricuspid Valve: Case Report

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H. Müderrisoğlu, R. Doğan*

Blood cysts are intracardiac masses seen very rarely in adults. In this paper, a blood cyst originating from tricuspid valve in a 34-year-old male patient diagnosed with two-dimensional echocardiography and right ventriculography was presented. The diagnosis was confirmed with surgery and histopathological examination.