Summaries of Articles

Clinical Investigations

Plasma Platelet Activating Factor Levels in Patients Undergoing Stent Implantation and Its Effect on Restenosis

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Platelet activating factor (PAF), which is a potent platelet agonist, is involved in the inflammatory responses. Coronary interventional procedures are expected to induce PAF release through the local injury on the coronary lesion. The aim of this study was to evaluate prospectively the relationship between PAF release and stent restenosis.

The study group consisted of 18 consecutive patients (14 males, mean age: 52.4±2.3 years, 37-70 years) underwent successful elective coronary stenting. All stents were implanted with the same protocol. All subjects were controlled with quantitative coronary angiography after 4-6 months following stent implantation. Plasma PAF levels were measured before, immediately after the invasive procedure, and at the control angiography. Pre-procedural samples were drawn from the aortic root and the post-procedure samples were drawn from the distal segment of the coronary artery beyond the lesion. RIA method was used for the quantitative measurement of PAF.

The PAF levels in pre-implantation period were significantly lower than in the post implantation period. It was not found any significant difference between the PAF levels of patients with restenosis (n=5) and the non-restenotic patients (p>0.05). In restenotic patients, the PAF levels remained similar to pre-implantation period, while it was significantly low in non-restenotic patients at the control angiography. These data suggested that the coronary stenting induced a significant increase in PAF levels in acute period. There is a relationship between the occurrence of restenosis and PAF levels.

Key words: Platelet activating factor, stenting, restenosis.

Serum Cholesterol Levels in Acute Myocardial Infarction and the Effect of Streptokinase on Cholesterol

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It is well known that hypercholesterolemia is a major risk factor for coronary heart disease and lowering serum cholesterol levels decreases the morbidity and mortality of coronary heart disease. Serum cholesterol measurements and determining the time to start lipid lowering treatment after acute myocardial infarction still remain controversial, though the effect of cholesterol on atherosclerosis is very well known. Our study is designated to investigate the progress of serum cholesterol levels before and after thrombolytic therapy and effect of streptokinase on cholesterol levels in acute myocardial infarction. One hundred and four patients, accepted to our coronary care unit, with acute myocardial infarction, the diagnosis based on pain, ECG and enzyme criteria, were included in the study. Blood was withdrawn on admission, for CK, CK-MB and serum lipid levels. Seventy-two of the participating patients received streptokinase. Serum lipid level studies were repeated on the 10th day and first and third month of infarction. The mean age of the patients was 56.2±10.4. In-hospital mortality rate was %7.7, and no out-of-hospital death was recorded. There was no significant difference between serum lipid levels and control measurements in patients who received streptokinase and in patients, who had not (p>0.05). Serum total cholesterol, HDL and LDL cholesterol levels have decreased after myocardial infarction and reached to their initial levels at the end of the third month (r=0.52 p=0.0001; r=0.58 p=0.0001; r=0.59 p=0.0001), respectively. A weak correlation was obtained between peak CK-MB and serum total cholesterol levels (r=0.23, p=0.04). We may conclude that streptokinase has no effect on serum lipid levels and the serum lipid levels on the first day and first month of infarction are close to each other, but are lower than the initial values on the first month, being most prominent on the 10th day of infarction. Lipid levels obtained on the first day, reflect the actual lipid profile and we recommend to

perform the measurements on the first day of infarction and start the lipid lowering therapy, if needed, as soon as possible.

Key words: Acute myocardial infarction, cholesterol, streptokinase.

Contribution of Corrected QT Dispersion (QTcd) to Dobutamine Stress Echocardiography in Diagnosing Critical Coronary Artery Stenosis

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The diagnosis of ischemic heart disease. QT dispersion defined as the difference between the longest and the shorthest QT interval on 12-lead electrocardiogram is a parameter depicting the heterogeneity of the ventricular repolarization. In this study, the contribution of QTcd during DSE to the specificity and sensitivity of the test in diagnosing ischemic heart disease was assessed.

Thirty consecutive patients (22 male, 8 female; mean age 54±6 yrs) who were performed coronary angiography were taken into the study. After coronary angiography within one month, DSE was performed. In angiography by using visual methods, 18 patients with 60% stenosis and upper values were accepted as the study group while twelve patients with stenosis below 40% were accepted as the controls. QTcd on 12-lead electrocardiograms both before and just after DSE were measured.

In the patient group, QTcd significantly increased from 51±8 msec to 60±12 msec during dobutamin infusion (p=0.023), while it slightly decreased from 49±6 msec to 48±6 msec in the control group (p=0.471). The sensitivity and specificity of QTcd alone in depicting critical coronary artery stenosis were 56% and 58%; they were found 50% and 92% together with dobutamine stress echocardiography, respectively.

In conclusion, measuring QTcd during DSE increases the accuracy of the test. This easily applicable method is thought to be helpful as an adjunct to DSE.

Key words: Dobutamine stress echocardiography, QT dispersion, critical stenosis

Assessment of the Relationship of Slow Coronary Flow and Myocardial Ischemia by Using TIMI Frame Count and Intracoronary Ultrasound

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Although the relationship between slow coronary flow (SCF) and coronary ischemia has been often emphasised, there is lack of knowledge on type and degree of this relation. The aim of this study is to evaluate the correlation of TIMI frame count and phasic coronary area change in existence of SCF and coronary ischemia; and in normal coronary pattern. Method: After coronary angiography, left anterior descending coronary artery was assessed for TIMI frame rate by the number of cineframes; and systolo-diastolic internal membrane areas (IMA) change at proximal segment by the intracoronary ultrasound. Then, all the patients underwent myocardial scintigraphy. Group A; 19 (9 F, 10 M, mean age 55.5±12.1) who have SCF without ischemia on scintigraphy, Group B; 5 (2 F, 3 M, mean age 56.8±12.3) who have SCF and ischemia on scintigraphy and Group C; 13 (5 F, 8 M, mean age 57.1±11.4) who have no SCF and ischemia on scintigraphy were studied (All groups were similar for age and sex). Results: Group A and B were similar for sistolo-diastolic phasic IMA change ratios and TIMI frame counts (for both p>0.05). Systolo-diastolic IMA change ratio was lower in Group A than C (%5.1±4.4 and %13.7±6.0 respectively, p=0.00003) and TIMI frame count was higher in Group A than C (51.4±5.1 and 31.8±4.2 frames respectively, p<0.0001). Conclusion: Ischemia caused by SCF have not seem to have a direct relation with IMA phasic change ratio and TIMI frame count. But compared to normal coronary pattern, IMA phasic change was lower in the coronary pattern with SCF.

Key words: Slow coronary flow, TIMI frame count, myocardial ischemia

Evaluation of Nine Cases with Supravalvular Aortic Stenosis

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In this study, nine patients with supravalvular aortic

stenosis (SVAS) diagnosed between 1994 and 1999 were reviewed, retrospectively.

Six of the cases were male and three female. The age of the patients ranged between 1 and 15 years (mean 6.4 ± 5.3 years) when SVAS was diagnosed. During the diagnosis, mean age of the SVAS patients with Williams syndrome was 4.8 ± 3.6 years, however in nonWilliams-SVAS patients was 8.5±6.9 years. Five of the male patients had Williams syndrome. The other patients had normal phenotype. Two patients were cousins. On echocardiographic examination, the mean systolic pressure gradient of SVAS was measured as 95±45 mmHg (38-180 mmHg). In seven patients who underwent cardiac catheterization and angiography, the mean systolic pressure gradient was measured as 98±50 mmHg (35-200 mmHg). The type of supraaortic stenosis was an hourglass type in all patients. Five patients with SVAS were operated on. Cardiac catheterization was planned in two patients diagnosed echocardiographically. One patient died postoperatively at the early period. In one patient who underwent operation, systolic pressure gradient increased gradually postoperatively. In this patient reoperation was planned.

SVAS is the least common of the three types of fixed aortic stenosis. In the patients with SVAS may be in three forms: Williams syndrome, autosomal dominant familial trait and sporadic cases. The patients with SVAS were evaluated as clinically, age of diagnosis and the reasons of delayed diagnosis.

Key words: Supravalvular aortic stenosis, Williams' syndrom

Case Reports

Scimitar Syndrome Associated with Coarctation of Aorta: A Case Report

O. Küçükosmanoğlu, N. Özbarlas, S. Erdem, G. Karakoç

The scimitar syndrome is a rare congenital cardiopulmonary malformation. Its association with coarctation of aorta is extremely uncommon. Herein, we report a male infant with Scimitar syndrome associated with coarctation of aorta. He had symptoms of heart failure. Chest X-ray demonstrated hypoplastic right lung and dextroposition of the heart. 2-D echocardiography and color Doppler showed secundum atrial septal defect and coarctation of aorta. Cardiac catheterization revealed pulmonary hypertension and left to right shunt. Angiography revealed abnormal drainage of right pulmonary veins to inferior vena cava and the presence of coarctation of aorta. Surgical correction of coarctation was attempted. In spite of repair of coarctation, the patient died due to respiratory insufficiency. We conclude that the degree of hypoplasia of the lung and severity of associated cardiovascular anomalies are important in predicting prognosis of patients with the Scimitar syndrome.

Key words: Scimitar syndrome, coarctation of aorta, infant

Acute Myocardial Infarction Due to Coronary Artery Dissection in a Patient With Ehlers-Danlos Syndrome

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Ehlers-Danlos syndrome is a group of congenital tissue diseases characterized by disorder of collagen metabolism. The clinical features of its subgroups has been defined and are quite typical. This report presents the case of a 30-year old patient with Ehlers-Danlos syndrome, having typical clinical features and histopathological confirmation, in which acute myocardial infarction devoloped due to dissection of the left anterior descending artery. This is the first reported Ehlers-Danlos syndrome case in Turkey with symptomatic coronary artery dissection.

Key words: Coronary artery dissection, Ehlers-Danlos syndrome, acute myocardial infarction