

## Summaries of Articles

### Clinical Investigations

#### **Protective Effect of Severe Mitral Regurgitation Against Left Atrial Thrombus Formation and Systemic Embolism in Patients with Rheumatic Atrial Fibrillation**

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Atrial fibrillation (AF) and /or mitral stenosis (MS) have been documented to be associated with increased incidence of left atrial (LA) thrombus (T) formation and systemic embolism (SE), and severe mitral regurgitation (MR) has been documented to lower these risks. However, indications of anticoagulation in patients with AF concomittant with severe MR remained to be determined. The purpose of our study is to investigate the incidence of LAT within the main LA cavity and/or LA appendage in patients with AF who underwent valve replacement because of rheumatic MS and/or MR, and to assess the impact of severe MR on incidence of LAT and SE in patients with chronic AF. The study population comprised 979 Pts (F 636, M 343, mean age  $40 \pm 14.5$  yrs) operated for pure or predominant MS (n=517), pure MR (n= 388), and combined severe MS and severe MR (n= 74) in our institution between 1993 and 2001. Preoperative cardiac rhythm was AF in 530 patients (54.1%), and sinus rhythm (SR) in the remainder. History of SE before surgery was documented in 21.8% of the patients with MS, but in none of them with pure MR or MS concomittant with severe MR (MS+MR). Chronic anticoagulation was noted in 146 patients with history of SE and/or THR within the LA documented by echocardiography. Age, gender, and preop LA diameter were not different between patients with pure MS, MR, and MS+MR ( $p > 0.05$ ). Intraoperative assessment disclosed THR within the LA and/or LA appendage in 108 patients. In MS group incidence of LAT was higher in patients with AF as compared to patients with SR

(31.3% vs 4.8%,  $p < 0.001$ ). In subgroup of MS with AF (n=310), thrombus was found to be located in the LAA in 51(16.4%), in the LA in 14(4.5%), and both in the LA and LA appendage in 31 (10.3%) patients. In subgroup of MS with SR (n=207), all of the LAT (n=10) was located in the LA appendage. However, none of the patients with severe MR had LAT. In MS + MR group, LAT was detected in one patient with AF in the LA appendage. Incidence of the LAT was lower in MR group irrespective of rhythm as compared to patients with MS with AF ( $p < 0.001$ ), and MS with SR ( $p < 0.05$ ). Patients with MS concomittant with severe MR had a lower incidence of LAT than patients with MS with AF ( $p < 0.001$ ) and MS with SR ( $p < 0.05$ ).

**Conclusion:** Results from clinical history and intraoperative assessment of our study provide further support for the protective effect of severe MR against SE and LAT formation in non-anticoagulated patients with chronic AF. The indications of anticoagulation in patients with chronic AF related to severe MR seem to need reconsideration.

**Key words:** Mitral regurgitation, atrial fibrillation, left atrial thrombi, embolism

#### **The Effect of Fenofibrate Therapy on Lipid Profile, CRP and Fibrinogen Levels in Type II Diabetic Patients with Combined Hyperlipidemia**

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Structural and functional changes in lipoproteins associated with diabetes substantially contribute to the increased risk of cardiovascular disease. The aim of this study was to investigate the efficacy of a fibrate derivate fenofibrate, in type II diabetic patients with combined hyperlipidemia who frequently have elevated levels of fibrinogen and C-reactive protein (CRP).

**Methods:** Forty-seven patients who were followed for combined hyperlipidemia refractory to diet regulation of at least 3 months and were free of coronary artery disease were enrolled in this study. Fifteen of the patients had diabetes mellitus type II. All patients received fenofibrate therapy (250 mg once a day PO) for 6 months. Serum lipid profiles, CRP and fibrinogen levels, whole blood counts, urine and blood chemistry analyses were tracked during therapy. At the end of 6 months, efficacy and side effects were evaluated. Diabetic and non-diabetic patients were compared according to their response to fenofibrate therapy.

**Results:** At the end of 6 months, there were favourable results in respect to lipid profiles, and CRP and fibrinogen levels in all patients. There were statistically significant reductions in the serum levels of total-cholesterol (-%9), triglycerides (-%58), and LDL (-%17) in both groups. The levels of HDL and apo A1 were significantly elevated. The changes observed in lipoprotein levels were quite similar in diabetic and non-diabetic group. Baseline fibrinogen levels were slightly higher in diabetics (378±82 mg/dl vs 350±76 mg/dl,  $p>0,05$ ). After treatment fibrinogen levels decreased significantly in both diabetic (16%) and nondiabetic patients (12%). At baseline the CRP levels were also slightly higher in diabetics (0,855( 0,681 mg/dl vs 0,578( 0,584 mg/dl;  $p=0,05$ ). In both groups CRP levels decreased significantly (54% in diabetics and 35% in non-diabetics). There were no significant adverse events during the study.

**Conclusion:** Fenofibrate is an efficient and safe antihyperlipidemic agent in the treatment of both diabetic and non-diabetic patients with combined hyperlipidemia. Fenofibrate may also be a possible antiatherosclerotic agent due to both CRP and fibrinogen lowering effects.

**Key words:** Combined hyperlipidemia, C reactive protein, Diabetes mellitus, Fibrinogen, Fenofibrate

## **New Findings of the Turkish Heart Study: Guiding Treatment Suggestions for Levels of Plasma Lipids and Low HDL**

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Turks have unique lipid and lipoprotein profiles characterized especially by low plasma levels of high density lipoprotein cholesterol (HDL-C). The low levels of HDL-C are associated with low levels of the protective subclasses of HDL, HDL<sub>2</sub> and LpAI, and with a 25-30% elevation of hepatic lipase activity that would be predicted to lower HDL levels. The widespread occurrence of low HDL-C in Turkey and in Turks living in Germany and the United States suggests that it is at least partly of genetic origin. Turkish children exhibit a marked 10-20 mg/dl drop in HDL-C levels associated with puberty, suggesting that an ethnic difference in hormonal balance contributes to the profoundly low HDL-C levels in adult Turks. Comparison of population data generated in the early 1990s in the original Turkish Heart Study with the present update study of Turkish men and women living in Istanbul indicates that the lipid profile and other risk factors for coronary heart disease (CHD) have not improved in this decade, consistent with the data from the Turkish Society of Cardiology. Despite their relatively low plasma cholesterol levels, Turks have extremely low HDL-C (<40 mg/dl in >70% of men and ~50% of women) resulting in very high total cholesterol/HDL-C ratios that predict increased CHD in other populations. The new National Cholesterol Education Program guidelines continue to focus on low density lipoprotein cholesterol levels and virtually ignore low HDL-C levels, which undoubtedly are a powerful risk factor in Turks. We would suggest that guidelines for Turkey consider low density lipoprotein cholesterol levels and the total cholesterol/HDL-C ratio as thresholds for initiating lifestyle changes or drug treatment for patients with CHD risk.

Review

**Pharmacological Therapy of Atrial Fibrillation.  
An update**

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Atrial fibrillation (AF) is a common arrhythmia associated with significant morbidity and mortality. The aim of therapies is to reduce the frequency, duration and severity of AF, improve quality of life, prevent of a tachycardia-induced cardiomyopathy, reduce risk of emboli, and if possible, prolong life. Life-threatening and hemodinamically intolerable AF requires immediate electrical cardioversion (CV). For the better-tolerated episodes, if duration of episode is less than 48 hours, pharmacological conversion or electrical CV may be performed without anticoagulation, otherwise for episodes longer than 48 hours, anticoagulant therapy with warfarin to a target INR of 2-3 for 3 to 4 weeks before elective CV is advised. Earlier CV may be taken into account if transesophageal echocardiography does not reveal evidence of embolic risk. When selecting an antiarrhythmic drug, underlying structural heart disease and concomitant other diseases should be carefully evaluated. Beta blocker is preferred in ischaemic heart disease, digoxin in left ventricular (LV) dysfunction, beta blocker or verapamil in hypertrophic cardiomyopathy, verapamil or diltiazem in patients (pts) with hypertension and in pts without organic heart disease for ventricular rate control. Sotalol, dofetilide or amiodarone should be preferred in coronary heart disease, sotalol, dofetilide or amiodarone in dilated cardiomyopathy, amiodarone or dofetilide in congestive heart failure, propafenone or flecainide in pts with hypertension/mild LV hypertrophy or in pts without structural heart disease for suppression of AF. Frequent or intolerable paroxysmal and persistent AF episodes should prove a strategy directed at sinus rhythm maintenance. In contrast, infrequent or well-tolerated paroxysmal AF can be observed without antiarrhythmic intervention, some of them

may need only rate control. In pts with infrequent and brief episodes of AF, the long-term warfarin may not be necessary, but in high-risk pts with paroxysmal/persistent/chronic AF dose-adjusted warfarin is even better than low dose warfarin plus aspirin for prevention of emboli. The methods of non-pharmacological treatment for rate control or restore sinus rhythm may be necessary in pts refractory to drug therapy.

**Key words:** Arrhythmia, atrial fibrillation, pharmacological therapy

Case Reports

**Reperfusion With Thrombectomy after poiled primary balloon Angioplasty in Acute Myocardial Infarction**

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Primary percutaneous coronary interventions were used in patients with acute myocardial infarction especially with altered hemodynamic parameters for over 20 years. Although conventional percutaneous interventions are more effective and perform reperfusion faster than thrombolytic therapy, propagation or embolisation of the thrombus to distal coronary arteries may decrease the success. In this report, 78 years old woman with inferior myocardial infarction, right ventricular infarction and cardiogenic shock was presented. She was immediately taken in catheter laboratory at the third hour of the chest pain because of hemodynamic alteration. The coronary angiography showed that, the right coronary artery was totally occluded in the middle and there was no distal antegrad flow. There was also serious obstructions in circumflex and left anterior descending arteries. The obstruction in the right coronary artery was crossed with a guidewire and in spite of multiple balloon inflations, angioplasty was unsuccessful because of thrombus. With X-sizer thrombectomy device, thrombus was extracted and TIMI-III flow was restored. After the

thrombectomy, a residual obstruction remained and a dissection that did not limit the flow appeared. For this reason stent implantation was done. After this procedure hemodynamic and clinical parameters were quickly improved. One week later, the stenosis in the left anterior descending artery was treated with balloon angioplasty and stent implantation. One week after the second intervention, she was discharged with improved general condition.

**Key words:** Acute myocardial infarction, primary percutaneous coronary intervention, intracoronary thrombectomy.

### **Ascending Aorta Dissection After Aortic Valve Replacement**

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Ascending aorta dissection following aortic valve replacement (AVR), is a rare but potentially fatal complication. The optimal surgical management of patients with aortic valve disease associated with ascending aortic dilatation is a controversial issue. While replacement of ascending aorta at the time of prosthetic valve implantation is mandatory when marked dilatation of the aortic root is present, the surgical strategy in case of moderate dilatation is still unclear. In patients with ascending aortic dilatation, AVR alone may not prevent progression of aortic root enlargement. Painless ascending aorta

dissection and significant further enlargement of ascending aorta in eight months after aortic valve replacement have been observed in a patient who showed mild to moderate ascending aortic dilatation at the time of the aortic valve replacement.

**Key words:** Aortic valve replacement, ascending aortic dissection

### **Successful Management with Coated Stent of Osteal Perforation of Left Anterior Descending Artery due to Laser Angioplasty**

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Coronary perforation is a rare complication of percutaneous coronary intervention. We report a case of osteal left anterior descending artery perforation and cardiac tamponade during excimer laser angioplasty on primary angioplasty of acute myocardial infarction. Perforation was successfully covered with PTFE-coated stent. Pericardial tamponade was decompressed with the aim of a 6-French pigtail advanced into the pericardium via arterial sheath. At open-heart surgery the site of perforation was repaired primarily, and left internal mammary artery to left anterior descending bypass grafting was performed.

**Key words:** Coronary artery perforation, stent, primary laser angioplasty, cardiac tamponade, and acute myocardial infarction