

## Summaries of Articles

### Editor's Note

**Publications in Part in English Henceforth in the Archives of TSC**

### Experimental and Clinical Investigations

#### **ICI-118, 551 Withdrawal Syndrome in Isolated Rat Heart and Aorta Tissue**

*N.İ. Kalyoncu, M.N. Gacar, Ş. Gök, B. Komsuoğlu, H.A. Mollaoğlu, Ö. Uğurbaşı, N. Sivrikaya*

In this study, performed at the Department of Pharmacology of the Karadeniz Technical University School of Medicine, the effects of sudden withdrawal of a  $\beta_2$ -selective blocker agent, ICI-118, 551, after 21 days of treatment on chronotropic, inotropic responses of isolated rat heart tissue and relaxing responses of isolated rat aorta tissue to adrenaline were studied at the 24th, 48th, 72nd and 96th hours after the last medication. 47 rats were studied including 15 rats as a control group. Sudden withdrawal was found to cause a significant increase in chronotropic response to adrenaline at the 48th hour. But no effect on inotropic response on isolated rat heart tissue, and on the relaxing responses on isolated rat aorta tissue to adrenaline was shown. In conclusion, it was thought that treatment with and withdrawal of ICI-118, 551 does not cause a negative or restrictive effect on myocardial contractility and major vascular bed, but increased chronotropic response to endogenous adrenergic agonists at 48 hours following sudden withdrawal may occur.

#### **Glucose Tolerance and Insulin Resistance in Non-obese, Non-diabetic Hypertensives**

*M. Uluçam, A. Çengel, N. Çakır, M. Metin, Ö. Dörtlemmez, H. Dörtlemmez*

Relations of resistance to insulin-stimulated glucose uptake, secondary hyperinsulinemia, high blood pressure, abnormalities of lipoprotein metabolism and atherosclerotic coronary heart disease are interesting topics of medical investigations. The purpose of this study was to compare nondiabetic non-obese hypertensive with normotensive cases who were also neither diabetic nor nonobese from the

point of tissue insulin resistance, triglyceride (TG) and cholesterol levels. Oral glucose tolerance test (OGTT), and indirect method for determining insulin resistance, was used in this study. The major finding of our study was that fasting insulin levels of hypertensives ( $11.1 \pm 5.5$   $\mu$ U/ml) were significantly greater than normotensives ( $7.8 \pm 4.1$   $\mu$ U/ml). This was considered to be related to insulin resistance. Another finding was that the prevalence of impaired OGTT is 33% in the hypertensive study group.

#### **Intra-aortic Balloon Counterpulsation in Cardiogenic Shock During Acute Myocardial Infarction**

*N. Yazıcıoğlu, R. Enar, M. Ersanlı, A. Baltay*

Forty-one patients (aged 42-78 years) with cardiogenic shock due to acute myocardial infarction (AMI) and who required intra-aortic balloon counterpulsation (IABP) were included in the study. The patients were followed between December 1990 and April 1993. IABP was administered in 20 patients (group A); 21 patients in whom IABP was not installed for various reasons were followed up medically (group B). No significant difference between the two groups was found other than a history of previous angina, higher initial pulse rates and higher CPK peak values in group A.

Fourteen patients in group A and 15 patients in group B died (statistically not significant). When the 6 surviving patients in group A and 14 dead patients were compared, the surviving patients were found to be younger, had a faster pulse on admission, lower pulmonary capillary wedge pressures. Furthermore, IABP was administered earlier to the surviving patients. These prognostic factors, were not observed in group B. The parameters measured to evaluate the clinical and hemodynamic benefit of IABP in group A revealed an increase in arterial PO<sub>2</sub> from  $57.8 \pm 13.6$  to  $79.5 \pm 16.8$  mmHg ( $p < 0.005$ ) and a decrease in mean pulmonary artery pressure and pulmonary capillary wedge pressure from  $33 \pm 5.3$  and  $22 \pm 4.6$  mmHg to  $27.3 \pm 5.9$  and  $18.5 \pm 5.1$  mmHg ( $p < 0.025$ ,  $p < 0.05$ ), respectively.



Complications were observed in 3 patients: Two femoral emboli between days 2-5 and one threat of gangrene. It was concluded that the in-hospital mortality was unchanged by IABP. The observation that IABP administration for treating cardiogenic shock during acute MI led to an increase in arterial PO<sub>2</sub> and a decrease in mean pulmonary artery pressure and pulmonary capillary wedge pressure suggests that it might have a beneficial effect on prognosis, especially in young patients with moderately elevated pulmonary capillary wedge pressure.

### Congenital and Pediatric Cardiology

#### **Two-dimensional, Doppler and Color Doppler Echocardiographic Findings of Congenital Coronary Artery Fistula**

İ.L. Saltık, A. Sarıoğlu, F. Öztunç, G. Sağın-Saylam, G. Batmaz

Eleven patients with coronary artery fistula proved by angiography or surgery were studied using two-dimensional, pulsed Doppler and Doppler color flow mapping. The coronary artery fistula drained into the right ventricle in 10 cases and the right atrium in 1 case. The dilated coronary artery was visualised in all patients. The right coronary artery was involved in 2 patients and the left coronary artery in 9. Internal diameter of dilated coronary artery/aorta ratio was found to be 0.26 to 0.54 (mean 0.38±0.11).

Doppler color flow mapping performed in 8 of 11 patients and color flow imaging visualised abnormal flow signals with mosaic appearance in the right ventricle in 7 of 8 patients. The entry site of the fistula in which abnormal signals were detected corresponded with the angiography. In conclusion, echocardiography (especially color Doppler imaging) is a useful noninvasive method in diagnosing coronary artery fistula.

#### **Transcatheter Closure of Patent Ductus Arteriosus: Report of 25 Cases**

İ.L. Saltık, N. Yazıcıoğlu, G. Batmaz, A. Sarıoğlu

Between September 1990 and July 1994, 26 transcatheter occlusion of persistently patent ductus arteriosus was attempted in 25 patients using Rashkind umbrella occluder. The patients' ages ranged from 2

years to 26 years (median 5.04 years) and patients' weight ranged from 11.5 kg to 52 kg (median 17 kg). In 12 patients a 12 mm and in 12 a 17 mm diameter device were successfully placed in the ductus (internal diameter average 3.86±1.75 mm, range 2.25 to 9 mm). One procedure was abandoned because of fluoroscopy insufficiency. Significant residual shunt with continuous murmur was present on the postocclusion aortography in 3 of 24 patients.

Complete closure of the ductus with implantation of a second occluder device was achieved in one of these 3 patients. Twelve patients had total occlusion and the remaining 9 patients showed minimal residual leaks on postocclusion aortography. No device embolisation occurred. Catheter occlusion of the patent ductus arteriosus using the Rashkind umbrella appears to be a safe and effective method of nonsurgical management.

#### **Transcatheter Closure of Patent Ductus Arteriosus in Adults**

A. Akıllı, M. Akın, S. Payzın, H. Kültürsay, M. Akıllı, L. Can, A. Altıntaş, C. Türkoğlu

Percutaneous transcatheter closure of the persistently patent ductus arteriosus (PDA) with the Rashkind PDA occluder system is an established effective therapeutic modality in the majority of children with PDA. We report here our results with adult patients with PDA. The study comprised 9 patients (8 females, 1 male with a mean age of 27±13, range 17-59. The diameter of the PDA ranged from 5.7 to 10.1 mm (7.8±1.6). Qp/Qs was calculated as 1.8±0.2 with the Fick method before the procedure.

A 17 mm-device was used in all patients. Complete closure was accomplished in 4 patients at 1 week, 7 patients in 1 year. One of the 2 attempted re-occlusions was successful (with the 17 mm-device). As a result, complete occlusion of the PDA with the Rashkind device was 89% (8 of 9 patients) in this study. No device embolization or major complications occurred during the procedure on the follow-up period. Percutaneous transcatheter PDA occlusion using the Rashkind occluder device is a feasible nonsurgical method also in adult patients with PDA.



### Posterior Septal Malalignment Without VSD

S. Özkutlu, N. Kürşad, M. Saraçlar, Y. Yurdakul,  
Ş. Ruacan

Malalignment of interventricular septum is generally with ventricular septal defects. Malalignment of interventricular septum without ventricular septal defect that originates from an angulation between trabecular and infundibular part of the interventricular septum was recently reported. It causes left ventricular outflow tract obstruction and aortic regurgitation because of turbulence in left ventricular outflow tract. We reported 9 patients with posterior septal malalignment without ventricular septal defect. Four patients had isolated septal malalignment, 2 had aortic coarction, 2 had pulmonary valvular stenosis and one patient had corrected transposition of great arteries. Five of them had systolic gradients in left ventricular outflow tract ranging from 10 to 70 mmHg, but four did not show subaortic systolic pressure gradient in echocardiography. Three patients with left ventricular outflow tract obstruction and one patient with severe aortic regurgitation were operated on.

The LVOT/AAo ratio, an indicator of severity of left ventricular outflow tract obstruction, strongly correlated with the subaortic gradient. Two patients who had a LVOT/AAo ratio of less than 0.6 continued to have 60-70 mmHg left ventricular outflow tract pressure gradients after operation. We determined furthermore a new subaortic ridge in 2 patients and a 15 mmHg systolic gradient in one patient in the follow-up. In conclusion, septal malalignment without VSD does occur and requires elimination because of possible complications. Surgery should aim to remove turbulence and jet flow, to prevent formation of new subaortic ridge and aortic regurgitation, and avoid adverse effects on the conduction system of the heart.

### Value of Auscultation in Heart Murmurs During Childhood

Z. Kılıç, M.R. Özer, A.K. Koçak, N. Tekin

It is known that clinical diagnosis of innocent murmurs which are common in childhood is a problem for pediatricians. In this study a total of 75 patients (39 boys and 36 girls,) mostly referred by a pe-

diatrician suspecting a cardiac pathology, were evaluated. The patients were classified as having a "pathologic murmur" or an "innocent murmur" after being examined by a pediatric cardiologist. Electrocardiography, telecardiography and echocardiography were performed in all patients. After our final evaluation in 50 patients with a clinical diagnosis of innocent murmur, echocardiographic evaluation changed the diagnosis to a pathologic murmur in 2 (4%) patients. The clinical diagnosis of pathologic murmur in 25 patients changed in 2 (8%) to an innocent one after echocardiographic studies. The sensitivity of the physical examination by a pediatric cardiologist was 92%, the specificity 96%.

The positive predictive value was 92% and the negative predictive value was 96%. Electrocardiography was normal in all patients. It was concluded that echocardiography is diagnostic in children with suspected heart disease but is unnecessary in pediatric patients with clinically diagnosed innocent heart murmurs. It would be time and money saving to perform echocardiography only in selected cases after a physical examination by a pediatric cardiologist.

### Reviews

#### Silent Myocardial Ischemia: Invisible Part of the Iceberg

H. Karpuz

Silent myocardial ischemia is a common presentation of coronary insufficiency. The cause(s) is still unknown. Documentation is generally obtained by exercise electrocardiogram or Holter monitoring, as well as by radionuclide techniques (e.g. thallium 201 myocardial scintigraphy). Silent myocardial ischemia has the same consequences as symptomatic ischemia on myocardial perfusion and ventricular function, and different studies showed that prognosis of silent myocardial ischemia is similar to the patient with symptomatic ischemia. Therefore, the clinician should treat not only angina but any myocardial ischemia. Various methods of treatment include correction of coronary risk factors, beta-blockers and/or calcium channel blockers, coronary angioplasty, and bypass surgery, especially in high risk patients.

### **Invasive Cardiology in Turkey**

*S. Payzın, A. Altıntaş, L. Can, A. Akıllı, M. Akın,  
H. Kültürsay, C. Türkoğlu*

Invasive cardiology is one of the most rapidly growing branches in Turkish medicine. In 1993 more than 37.000 coronary angiography and cardiac catheterization, 3.400 percutaneous transluminal coronary angioplasty and 700 valve dilatation procedures were performed by 150 invasive cardiologists. Total cardiology hospital capacity reached 1300 beds in 38 units. These numbers are not adequate for the Turkish population when compared with many European countries. Invasive cardiology in Turkey has its own problems such as economic burden, educational issues and lack of a sound national registry.

### Editorial Comment

#### **Are Intensive Cardiac Procedures in Turkey Numerically Inadequate?**

*A. Onat*

It is reasonable to argue that adequacy of the number of procedures should be judged in relation to the total number of patients rather than to the population. Since Turkey presumably has about a third as many coronary heart disease patients as in the United Kingdom, for example, the number of invasive procedures relative to patients are comparable in the two countries - and thus should not be considered grossly inadequate.

### Case Report

#### **Iatrogenic Brachial Artery Pseudoaneurysm: a case report**

*G. Ahunbay, T. Onat, İ. Yükseltan*

Iatrogenic pseudoaneurysm of the left brachial artery at the elbow region is presented, which was formed after accidental damage to the artery during vein puncture in a nine-year-old boy with congenital aortic insufficiency who was successfully operated. The aim of this presentation is to call attention to the rare development of iatrogenic arterial pseudoaneurysm during vessel puncture procedures.