

# Working Groups

## ANNUAL REPORT

### of the Working Group on Myocardial Function

1999 - 2000

#### Objectives :

The Working Group on Myocardial Function brings together basic scientists and clinicians from all European countries, with the aims (1) to study and characterize myocardial function at all levels, from the molecular and subcellular level up to the most integrative level of the patient with heart disease, and (2) thus to optimize diagnosis, treatment, and prognosis of patients with impaired ventricular function.

#### Number of sessions organized at ESC Annual Congress :

##### Barcelona :

2, i. e. debate on "myocardial hibernation – repetitive stunning vs. persistent ischemia" and "importance of mitochondria in ischemia/reperfusion"  
4 co-sponsorships

##### Amsterdam :

#### 4 co-sponsorships, i. e.

1. Cell transplantation into the heart : studies in animal models of normal and infarcted myocardium
2. Nuclear hormone receptor directed therapy – an emerging concept in the treatment of cardiovascular disease
3. Novel therapeutic approaches to protection of the ischaemic and reperfused myocardium
4. Role of inflammation in cellular remodeling

#### Activities outside ESC Annual Congress :

International Symposium "Cardiac Interventions 2000: From Physiology to Clinical Practice", Interlaken, January 13-16, 2000, organized by Otto Hess

The traditional Winter Meeting of our Working Group has been changed in format and location from Lenzerheide to Interlaken. This change has become necessary because our previous sponsor (Bayer Company) was not able to support our meeting any more. Otto Hess and Bernhard Meier from Inselspital Bern organized an international meeting on "Coronary Interventions" in collaboration with the national working groups. Two sessions were dedicated to "Coronary Hemodynamics" and "LV Remodeling" which were organized by the Working Group on Myocardial Function. The role of intracoronary flow and pressure measurements in the assessment of the functional significance of coronary lesions was discussed by different experts in the field. Specifically, the fractional flow reserve and its clinical impact were treated as well as the role of coronary collateral perfusion in ischemia and myocardial infarction. In the second symposium the role of growth factors and cytokines in the pathogenesis of heart failure was discussed. Further, the role of diastolic dysfunction in the elderly population and new horizons in the medical treatment of heart failure were presented. In evening seminars several cases were presented by members of the working group.

**International Workshop "Diastolic Heart Failure", Verona, February 19, 2000, organized by Paolo Marino**

Another winter meeting took place in Verona around the topic of "Diastolic Heart Failure". Sixty clinical cardiologists, besides the faculty, attended the workshop devoted to this very timely topic.

The workshop was structured in 3 sessions. There was a mixture of senior and younger investigators, with discussion time set as 1/3 of the time devoted to presentation time. All the presentations were enriched by productive, lively, interactive, even aggressive discussions. The first session dealt with basic filling dynamics in normal and disease states, spanning over the broad range of the contribution of diastolic dysfunction to exercise intolerance, the importance of ventricular interaction and finally the modulation of left atrial function by diastolic dysfunction. The second session was organized as a point-counterpoint session, devoted to the methodological problems inherent to the assessment of ventricular relaxation and to the clinically very relevant topic of the comparison between the Doppler unloading technique vs the hemodynamic stress testing approach in the prognostic assessment of heart failure patients. The morning was concluded by a final talk devoted to the color-flow propagation technique and its role as a noninvasive approach for the assessment of diastolic function and dysfunction.

The afternoon session started with an overview on the role of the strain-rate imaging technique as a brand-new noninvasive view to regional diastolic function. The workshop continued with a talk focussed on the contribution of LV hypertrophy to the clinical syndrome of diastolic heart failure and to the role of cytokines and NO synthases in the ventricular filling process. Finally the problem of treatment of diastolic heart failure was addressed, with talks devoted to medical and instrumental (pacing) therapies for the disease.

### **Workshop on "Current Concepts and Methods in Cardiovascular Research", Hannover/Großburgwedel, March 3-5, 2000, organized by Bernhard Schieffer**

This workshop was the first workshop organized from the Division of Molecular Cardiology of the Department of Cardiology, Medizinische Hochschule Hannover (Chair: H. Drexler). This workshop was initiated in 1999 by members of the Working Group on Myocardial Function of the European Society of Cardiology e. g. Prof. G. Heusch, Essen, Prof. Piper, Gießen, Germany and Prof. M. Schaub, Zurich in order to bring cardiovascular researchers early in their career together to exchange/share and discuss their concepts and methods with senior researchers in the rapidly growing field of cardiovascular research. With respect to new molecular methods which will be introduced in the near future (DNA-Array and functional genomics), the speakers were selected and invited. The workshop began with a key-stone lecture from Axel Ullrich, Max-Planck Institut of Biochemistry Munich. Dr. Ullrich demonstrated brilliantly the importance of reversible phosphorylation events in various diseases and presented new results on non-peptide kinase inhibitors. This lecture was followed by an extensive discussion about the importance of kinases and phosphatases in chronic cardiovascular diseases and lasted up to midnight. The next-days program focused on cardiogenesis in-vitro and myocyte differentiation in the morning sessions, discussed by Markus Schaub, Zurich and Anna Wobus, Gattersleben who presented impressive results about the role of cytokines and growth hormones on cardiomyocytes structure and development. Later on genomic analysis of various cardiovascular diseases, such as the long-QT-Syndrome, hypertension and atherosclerosis was discussed by H. Schunkert, Regensburg, H. Wedekind, Munster and M. Stoll, Milwaukee. All speakers discussed intensively the frustrating results of retrospective genomic analysis, e.g. gene polymorphisms which were performed in the past. The speakers explained that this latter is due to the heterogeneity of the study-populations. In parallel to oral presentations, a poster presentation was held, in which all participants had the opportunity to present their latest results. A more clinical aspect of cardiovascular research and leading edge techniques of interventional rhythmology was presented by J. Tebbenjohanns, Hannover. In the evening and sunday morning sessions, J. Stamler, St. Rose-John, M. Kockx and B. Staels discussed the role of oxidative stress, apoptosis and redox sensitive gene expression for the development of atherosclerosis and endothelial dysfunction. For all participants from a variety of research fields, this informal and innovative workshop was a great success, and it is planned to repeat this kind of meeting in a bi-annual circuit.

### **Membership :**

#### **Current membership status : 226**

In Barcelona, Dr. Seligmann, Berlin and Dr. Brady, Glasgow were unanimously elected as new members of our WG. The chairman encouraged the further recruitment of new members.

### **Miscellaneous :**

As a result of a joint initiative of the Working Groups on Myocardial Function and Coronary Circulation a review article was published in the *From Bench to Bedside* Series of Circulation (101, 2000, 689-694) on "a-Adrenergic Coronary Vasoconstriction and Myocardial Ischemia in Humans".