

ANNUAL SCIENTIFIC REPORT 2001 - 2002

ESC WORKING GROUP ON MYOCARDIAL FUNCTION (#4)

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.

Sessions organised at the ESC Annual Congress:

1. The development of left ventricular hypertrophy: in athletes, in pressure overload and in hypertrophic cardiomyopathy
2. What is new and what is true in assessment of regional myocardial function? (in conjunction with WG Echo)
3. Heart failure with preserved systolic function (in conjunction with WG Heart Failure)
4. Cardiac heterogeneity: strategy for survival? (co-sponsoring ISHR)
5. Alpha-adrenergic coronary vasoconstriction in man (co-sponsoring ISHR)
6. Cell transplantation into the heart infarcted myocardium (co-sponsoring ISHR)
7. An update on ischaemic preconditioning: from mechanisms to clinical practice (Cluster 3 proposal)

Activities run outside the ESC Annual Congress:

1. WG official winter meeting (*From hypertrophy to failure*) in Isola 2000 in January 2002 (a report is enclosed). The next WG winter meeting will be held again in Isola 2000, January 24-25, 2003.
2. The WG was also officially supporting the Congress "*P-V loops*", an international *Symposium on ventricular function and failure "From mice to man"*, that was held in Maastricht in January 17-19, 2002 (organiser Dr F. van der Veen) and the meeting "*Sodium and the Heart*" that took place in Goettingen in May 5-8, 2002 (organiser Dr B. Pieske) (*report annexed*).

Membership:

Current membership status : 234

Prof O. Hess (Bern) and Prof. I. Amende (Hannover) have been appointed as Distinguished Fellows of our WG.

Prof Paolo Marino
Chairman, Working Group on Myocardial Function

ANNEX 1: ISOLA REPORT 2002

The meeting of the Working group on Myocardial Function of the European Society of Cardiology (ESC) took place in Isola 2000, France, January 24-26, 2002 in the Hotel Le Chastillon. Like the year before the scientific organising committee was composed of P. Marino, O. Smiseth and B. Crozatier.

We kept for the meeting the original title: "From hypertrophy to heart failure". Forty-eight participants registered this year; 39 attended. Twenty-six abstracts were selected by the scientific committee for oral presentation. In addition, this year 7 more abstracts were selected for a poster session that was held at the end of the meeting, on Friday afternoon. Such a poster selection grouped all the abstracts dealing with the ischemic aspect of heart disease.

The meeting was divided, as usual, into 4 scientific sessions over 2 days. Time from the end of the morning session (12.00) to the beginning of the afternoon session (16.30) was devoted to skiing (besides lunch). We were lucky also this year with the weather: snow arrived in Isola the night before the meeting and the sky was beautiful during the entire weekend.

Session 1 : Mechanisms of mechanical dysfunction in heart failure. Chairs: G Hasenfuss (Goettingen) and JL Balligand (Brussels); R Schultz (Essen) and C Delcayre (Paris).

Introductory note : H Attramadal (Oslo). Abstracts from E Camors (Paris), P Delva (Verona), TG Hampton (Boston), D Hilfiker-Kleiner (Hannover), H Koezler (Goettingen), P Schott (Goettingen), A Lacampagne (Montpellier), A Bonz (Würzburg).

Session 2 : Hormones and heart failure. ACE inhibition. Chairs B Crozatier (Crèteil) and R Latini (Milan); A Shah (London) and G Vassort (Montpellier). Introductory note : R Latini (Milan). Abstracts from H Attramadal (Oslo), JB Su (Crèteil), C Delcayre (Paris), AF Leite-Moreira (Porto), B Pieske (Goettingen), P Marino (Verona)

Session 3 : Endothelium and myocardial function. Chairs: I Amende (Hannover); O Smiseth (Oslo) and E Bassenge (Freiburg). Introductory note : JL Balligand (Brussels). Abstracts from E Bassenge (Freiburg), TG Hampton (Boston), D Grieve (London), S Anker (Berlin), M Flesch (Cologne), VM Conraads (Antwerp), EK Podewski (Hannover), JF Bronzwaer (Amsterdam).

Session 4 : Diastolic function and exercise intolerance. Chairs P Marino (Verona) and J Schipke (Duesseldorf); T Gillebert (Ghent) and A Ganau (Sassari). Introductory note : O Smiseth (Oslo). Abstracts from P Sanna (Sassari), M Guazzi (Milan), R Roncon-Albuquerque (Porto), Byrne JA (London). Posters: L Calvillo (Milan), V Pombum (2) (Duesseldorf), VM Conraads (Antwerp), S Anker (Berlin), A Skyschally (Essen), AF Leite-Moreira (Porto).

The business meeting of the WG took place on Saturday morning during breakfast. Part of the conclusions reached has been already reported in the July newsletter.

Each participant paid for his trip to Nice. A grant from Servier (16780 € HT) and the help of INSERM (3048 €) allowed to cover expenses for shuttles from Nice to Isola 2000 and hotel expenses (full board). In addition, the group paid 5422 € to ESC for the practical organization of the meeting (mailings, program and abstract book printing, local organisation with the permanent presence of an ESC staff member, E. Bourg, who did an excellent job).

ANNEX 2: REPORT ON THE MEETING “SODIUM AND THE HEART”

Summary: International Symposium „Sodium and the Heart“, May 5-8,2002 at Schloß Waldeck, Germany, organized by Priv.-Doz. Dr. Burkert Pieske

This International Symposium was organized under the auspices of the working group „Myocardial Function and Energetics“ of the working group „Myocardial Function“ of the European Society of Cardiology. It was an International Symposium which addressed the fundamental role of intracellular Na^+ handling for myocardial function and growth. The Symposium consisted of 5 sessions and 2 poster sessions with a total of 23 oral presentations and 22 further poster presentations. A total of 120 scientists attended the meeting.

In the first session of the symposium, entitled „Regulation of $[\text{Na}^+]_i$ handling in the heart“, the role of intracellular Na_i ion homeostasis during contraction and relaxation, as well as the mechanism of sarcolemmal Na^+ transport was discussed in detail. Session number 2 (entitled „ $[\text{Na}^+]_i$ in ischemia and reperfusion“) addressed the role of Na^+ and its counterpart H^+ for regulation of pH in ischemia and reperfusion and the impact of these ions for intracellular Ca^{2+} overload during ischemia/reperfusion. Session 3 was entitled „ $[\text{Na}^+]_i$ in myocardial hypertrophy“. In this session, the increasing evidence for the fundamental role of Na^+_i as a key step in the signaling cascades that regulate cell growth and hypertrophy was discussed.

Session 4 („ Na^+ in contractile dysfunction and heart failure“) summarized the major impact of altered intracellular Na^+ ion homeostasis for electrophysiological abnormalities, arrhythmias, as well as altered excitation - contraction coupling in animal models of heart failure and in human heart failure. The last session (Nr. 5: „Therapeutical implications of altered Na^+_i homeostasis“) addressed potential therapeutical targets that modulate intracellular Na^+ homeostasis. Increasing evidence demonstrates that beside Na^+ channel modulation and Na^+/K^+ - ATPase inhibition, cardiac protection may be obtained by Na^+/H^+ exchange inhibitors and, potentially, by modulation of Na^+/Ca^+ exchange. In the poster sessions, various topics related to intracellular Na^+_i homeostasis were addressed, such as regulatory pathways in modulation of Na^+/H^+ exchange activity, Na^+/K^+ -ATPase, and Na^+/Ca^+ exchange function, as well as new developments in non-invasive or experimental imaging techniques for Na^+_i in isolated myocardium or in the intact heart.

Beside this challenging program with presentations from top researchers from Europe, the United States, Australia, Japan and South America, a cultural and sportif social program had been organized witch gave room for further ample personal contacts between researchers. Taking together, this Symposium was a big success, and continuation of this series of meetings is planed for June 2003. The Symposium stimulated the preparation of a Cardiovascular Research Spotlight Issue „Sodium and the Heart“ with a number of peer-reviewed reviews that cover the topics of the Symposium, as well as further original contributions. This Spotlight Issue will appear in March-April 2003.