ICMR INSERM WORKSHOP ON

DEVELOPMENT OF

BiOMARKERS

FOR CARDIOVASCULAR DISEASES & DIABETES

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DEVELOPMENT OF BIOMARKERS FOR CARDIOVASCULAR DISEASES & DIABETES

(Report of ICMR INSERM Workshop)

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Preface

India is facing an increased threat of adult chronic diseases in a backdrop of unabashed crisis of infectious diseases and environmental degradation. In the year 2005, projected figures showed that NCDs accounted for 53% of deaths and 44% of the burden of disease in India. With the highest number of diabetics (33 million) and highest number of deaths (1,531,534) in the world due to coronary artery disease (CAD) estimated in 2002, the country faces an impending epidemic of diabetes and cardiovascular diseases. It is conceivable that only through preventive research, India may be spared of the burden of disability and disease due to diabetes, cardiovascular diseases and hypertension that has plagued industrialized, urban societies. However, non-availability of methods for monitoring disease progression or the efficacy of potential therapeutic interventions impedes disease prevention and management. Therefore, robust biomarkers for cardiovascular diseases and diabetes need to be developed.

Biological markers or biomarkers for identifying the risk, stage and prognosis of heart disease and diabetes occupies a central position in clinician's armamentarium. The goal of biomarker research is to mine the various biological pathways and to look at various genomic and proteomic studies for underpinning molecules that reflect changes related to pathological abnormality. Increasingly, we are also witnessing the measurement of a biomarker playing an important role in monitoring the efficacy/side-effects of various therapeutic interventions. From the clinician's standpoint, these can also have a benefit in assessing therapeutic compliance. These biomolecules may be DNA (single nucleotide polymorphism [SNP] or haplotypes), RNA (transcriptional), protein (serum based), or metabolite (serum based) in nature. However, the discovery of a new biomarker needs to be complemented by development and validation of analytical techniques.

A workshop on "Development of Biomarkers for Cardiovascular Diseases and Diabetes" was held to build up on unique strengths of the Indian and French scientists. The Workshop provided a forum to discuss research opportunities and prioritizing research questions which could be undertaken as ICMR-INSERM collaborative projects. A distinguished group of cardiologists, diabetologists, and basic scientistis from India and France and representatives of French embassy participated in this workshop. Importantly the workshop participants showed a keen interest in undertaking multicentric networking projects on selected biomarkers in the two countries. It will be important for Indo French collaborative projects to develop biomarkers which deliver a positive clinical, operational and economic outcome.

(Dr Bela Shah)
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Acknowledgement

Indian Council of Medical Research, in its efforts to explore the biomarkers which can be translated into clinical tests for screening, diagnosis, treatment and prognosis of Cardiovascular diseases and diabetes and to understand the challenges involved in development, validation and incorporation of these markers organized a collaborative ICMR INSERM Workshop on **"Development of Biomarkers for Cardiovascular Diseases and Diabetes"** from to 24th Jan 2007 at Gurgaon.

Every workshop requires the dedication of many individuals who contribute their time and efforts to enable the workshop to take place. I express my special thanks to French coordinator Dr Florent SOUBRIER for his technical advice and support in carrying out this activity. I also covey my thanks to Mr Stephane Roy and his team for helping with the logistics of the workshop.

I express my deep gratitude to advisory group members Dr KK Talwar, Dr NK Mehra, Dr S Majumdar, Dr CC Kartha and Dr V Mohan for their unstinted guidance in planning various sessions of the workshop.

The chairpersons of the individual sessions were instrumental in streamlining the sessions and capturing the information which flowed throughout the presentations and the discussions and I express my sincere thanks to them. Of course, the workshop would not have been possible without both the French and Indian participants listed in Annexure I, whose active participation in various sessions, round table discussions and working groups is deeply acknowledged.

My sincere thanks are due to Prof NK Ganguly, Director General, ICMR for his un-daunting support in undertaking this activity.

I am also thankful to Dr Lalit Kant, Head, International Health Division and Dr Mukesh Kumar, IHD for funds and support in conducting this workshop.

I also thank Dr Bela Shah, Head, Division of Non Communicable Diseases and Indian coordinator for this Workshop for her constant support and words of encouragement.

Finally, gratitude is due to all persons from the staff of Division of NCD, especially Mr PK Chawla, too numerous to mention, that helped to make the Workshop a success.

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