

Special Feature

Promoting scientific collaboration and education in cardiovascular–renal medicine

EURECAM: An ERA-EDTA-based working group

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Introduction

Medical specialties concentrating on organ-based diseases have flourished during the last 50 years. This focus on the role of the heart, lungs and kidneys in human diseases, by a new breed of clinician-investigators, has stimulated the growth of patho-physiological and clinical knowledge at an unprecedented rate and has produced major benefits for patients. Advances in organ transplantation, artificial organs, as well as in cardiovascular and renal medications can largely be attributed to strong scientific structures built upon organ-centred medical specialties. These specialties still retain and will likely maintain considerable heuristic potential in the foreseeable future. Yet, many believe that recent discoveries spurred by deciphering of the human genome, by the development of new technologies allowing simultaneous monitoring of disparate metabolic systems, by progress in cell biology [1] as well as by tremendous progress in telecommunications and in clinical informatics have all tended to lower the borders between specialties as they are perceived today [2]. This new scenario has facilitated a blossoming of inter-speciality areas where professionals, clinical investigators, and basic scientists alike can look at disease with a fresh integrative approach.

The borders circumscribing nephrology and cardiovascular medicine have always been permeable, and nephrologists and cardiologists can boast of a long tradition of close collaboration. For example, the various national and international societies focusing on hypertension, such as the European Society of Hypertension, the American Society of Hypertension and the International Society of Hypertension, represent the shared intellectual efforts of nephrologists, cardiologists and endocrinologists to investigate a condition that cuts deep across these medical specialties.

The emergence of chronic kidney disease (CKD) as a public health priority [3], a phenomenon that has material-

ized during the last decade, is one of the most challenging problems in modern medicine. It is now firmly established that renal dysfunction portends a high risk for cardiovascular disease. Cardiovascular diseases remain the main cause of death in western societies, and the increase in risk of death associated with coexisting CKD, though still poorly understood, appears considerable. The bidirectional link between renal and cardiovascular diseases, the high risk of the death signalled by their coexistence (which goes beyond BP and classical risk factors [4]) and the considerable epidemiological burden imposed by this link are at the basis of an emerging discipline aimed at further lowering the borders between nephrology and cardiovascular medicine. Cardio-nephrology or nephro-cardiology societies (the designations betraying the specialty of the proponents) have already been instituted. The importance of this border area between the two disciplines has been illustrated in the scientific programs of major nephrology and cardiology societies wherein presentations focusing on these themes have shown a prominent time-sharing in the meetings organized by these societies.

To respond to these ongoing changes in medicine and science, the ERA-EDTA has recently launched an initiative aimed at promoting collaboration between nephrologists and other specialists on themes of major clinical and scientific interest. This initiative proposes the creation of working groups (WG), which will consist of concerted efforts of groups of interested professionals working together to achieve specific clinical, scientific and educational goals, that will provide a central means for fostering advancement in renal medicine and allied sciences.

The ERA-EDTA has a large base of clinicians and investigators interested in the relationships between the kidneys and the cardiovascular system. At the most recent ERA-EDTA Congress in Stockholm in 2008 (Figure 1), there were 10 free communication sessions and 12 poster sessions that were largely composed of themes that directly or indirectly focused on links between the kidney and cardiovascular systems. Overall, there were 356 presentations describing findings relevant to this relationship.

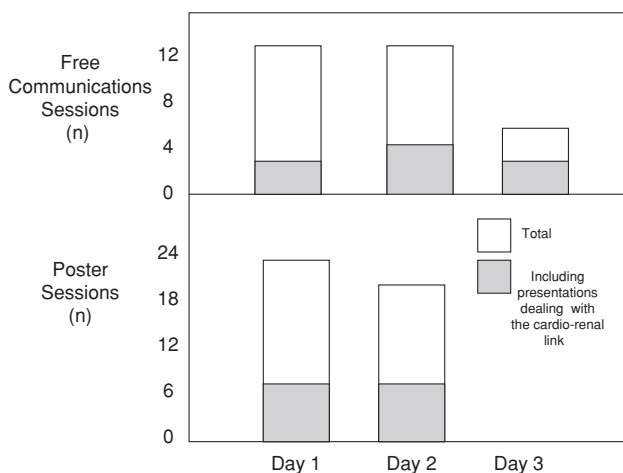


Fig. 1. ERA-EDTA Congress Stockholm, 2008.

The large interest on this theme-area among the ERA-EDTA membership was the stimulus for a group of clinical investigators with an interest in the field (the ERA-EDTA President G.L., A.C., D.F., D.G., B.L., A.M., G.S., A.W. and C.Z.) to propose to the ERA-EDTA council the creation of a European RENal and Cardiovascular Medicine (EURECAM) WG. In May of 2008, the council approved this WG and ratified the proposal by the original investigator group to name C.Z. as the first WG chairman.

EURECAM: Mission and goals (Figure 2)

As previously mentioned, it is still poorly understood how renal dysfunction engenders cardiovascular complications. Even though interest in CKD is on the rise in the medical community at large, renal dysfunction remains a Cinderella in the area of clinical research. As an example of the systematic overlooking of the cardio-renal link, cardiovascular disease trials frequently do not provide information on kidney function of participating patients. Disappointingly, the vast majority of these trials usually excluded patients with renal insufficiency [5]. Even though this situation will probably change in the future, with notable exceptions [6], there are still few concrete signs that planners of cardiovascular trials will take proper consideration of CKD patients into the design of their studies. Indeed, the history of these trials has included deliberate (but incomplete) exclusion. Even though the number of observational and mechanistic studies examining the kidney–heart interface is increasing, specifically designed research focusing on patients with both chronic kidney disease and cardiovascular disease should become a priority issue on both clinical and scientific grounds.

The aim and scope of EURECAM is to promote collaborations among European centres that pursue research in the overlapping area of cardiovascular and renal medicine

Scientific congresses are an important instrument for fostering scientific research because they facilitate contacts

and face-to-face discussions among clinicians and scientists. During recent decades, different types of congresses and scientific societies have prospered. Cardio-renal medicine has already received sufficient attention by major scientific societies at international meetings. While promoting communication between members and education (see below) is an important goal of EURECAM, it is not the intention of the ERA-EDTA WG to compete with or replace existing national and international societies (and other WGs) for the organization of congresses. Rather, EURECAM aims at bonding with these WGs by joining and/or endorsing well-conceived meetings centred on the nephrology–cardiovascular medicine interface. Specific descriptions of these issues will be provided in the EURECAM website (under construction). EURECAM will specifically aim to create the opportunities for collaboration among and between nephrologists and other specialists. To this end, the centrepiece of the WG will be a special type of Convention that prioritizes the presentation of research proposals having the characteristics of feasibility, relatively low cost and clinical relevance. Creation of shared databases is a concrete example of fruitful collaboration that may address relevant clinical research questions. Several research groups in Europe have collected or are collecting 24-h ABPM recordings as well as detailed clinical information and outcome data in patients with kidney diseases, hypertension or heart diseases. Similar measures of vascular involvement, such as pulse wave velocity or cardiac imaging techniques ranging from echocardiography to nuclear magnetic resonance, have also been made. Large databases provide a tremendous opportunity for generating or testing scientific hypotheses [7]. However, the collection or merging of data requires expertise in clinical epidemiology, data management and statistical analysis. The range of databases that can be built is large and encompasses pre-dialysis and dialysis databases. For this reason, EURECAM will establish a special board of epidemiologists and biostatisticians who will be involved in collaborations of this kind and who will provide methodological input into study design, data collection/merging and statistical analysis.

Investigator-initiated trials embedded in clinical practice represent an additional possibility for effective collaboration among research groups aimed at advancing knowledge in cardiorenal medicine. Furthermore, basic scientists who aim to move bench observations into the clinical realm may find it useful to present their data and ideas to clinical investigators in order to help their work enter the translational phase.

Promoting collaboration between different specialities: a step-by-step approach

Collaborations between investigators from different specialties and effective bridging of inter-specialty knowledge are complex issues that pose diverse challenges, which include differences in the perception of priorities to difficulties related to setting common goals. EURECAM will make special efforts that contribute to the building of a common territory for nephrologists, cardiologists, hypertensionists and diabetologists. We will act with a realistic

EURECAM: Mission and goals

Mission: promoting collaborations among European centres pursuing research in the overlapping area of cardiovascular and renal medicine.

Goal: To this end a special board of epidemiologists and biostatisticians that may provide methodological input in study design, data collection/merging and statistical analysis will be formed.

Facilitating communication between members and education are important goals of EURECAM. However **it is not intention of the WG competing with existing national and international societies and WGs for the organization of traditional congresses and meetings.**

Educational activities by EURECAM will privilege **courses on methodology and application of state of art instrumentation** useful for research in this area.

Fig. 2. Mission: to promote collaborations among European centres pursuing research in the overlapping area of cardiovascular and renal medicine. Facilitating the construction of databases that allow shared research will be the first move of EURECAM. To this end, a special board of epidemiologists and biostatisticians will be formed to provide methodological input into study design, data collection/merging and statistical analysis. A facilitation of communication between members and educational activities are important goals of EURECAM. However, it is not the intention of the WG to compete with existing national and international societies or other WGs for the organization of traditional congresses and meetings. EURECAM will also organize courses on methodology and application of state-of-the-art instrumentation useful for this research area.

attitude by first establishing a group based on members from the ERA-EDTA. Opinion leaders in professional and scientific areas directly or indirectly related to cardiorenal medicine will be contacted only after the WG has created an initial program of projects, that is when the WG has identified concrete possibilities for starting collaborative research projects.

Identification of research and education priorities focusing on cardiovascular and renal medicine

While the ultimate goal of medical research is to produce improved clinical care, other purposes are freedom, serendipity and intellectual curiosity. Individual investigators are driven by scientific interest and background as well as by external factors such as the academic environment, funding and other considerations. It is widely recognized that identifying the areas where research is most needed may improve clinical medicine and help investigators to set aims and goals. This is a complex endeavour that can be accomplished by thorough analysis of existing knowledge and its relation with major clinical problems in each area. This type of analysis is usually made by methodologists and guideline developers after extensive literature review and careful consideration of the epidemiology and of the clinical and public health impact of the conditions being analysed. A goal of EURECAM is the production of position statements and the setting of recommendations on priority research topics in the area of cardiorenal medicine. Towards this end, the European Renal Best Practice (ERBP) group of the ERA-EDTA (<http://www.era-edta.org/IMAGES/ERBP.pdf>) has successfully begun produc-

tion of documents that provide guidance to clinicians in everyday clinical practice. To avoid a duplication of efforts and to prevent overlapping with ERBP activities, a collaboration scheme will be proposed by ERBP whereby proposals for position statements and documents of general interest by EURECAM will be submitted and reviewed by ERBP. EURECAM aims to be useful for ERA-EDTA members and nephrologists in general. Therefore, education will be an important goal of this WG. Educational endeavours by EURECAM will prioritize courses on methodology and application of state-of-the-art instrumentation useful for research in this area. Special courses and meetings to support collaborative research projects will be designed when these approach the implementation phase. A yearly educational course that provides a critical overview of the literature will be organized in connection with the Annual Congress of the ERA-EDTA. We will also explore the possibility of co-organizing educational courses with other national or international societies.

EURECAM: how we start

As the initial group of investigators that make up EURECAM, we share the view that creating mutual trust and building a common track are the only means of creating an enterprise that identifies the shared territory of cardioneurology as an aim worthwhile of pursuit. While a survey of presentations given at the 2008 ERA-EDTA congress shows that interest in cardiorenal medicine is high among members in this society, it does not provide sufficient information on the range of interests or on the potential

of various clinical investigators and research groups. It was therefore decided that the first move of EURECAM would be to perform a specific survey on ERA-EDTA members. To increase participation in this survey, we will form a liaison between national societies and with existing national WGs. This survey will aim to map the research activities of nephrologists and other specialists in the cardiovascular–renal area. Results from this survey will be used as a basis for identifying possible collaborations and for shaping the first Convention of the WG.

A communication strategy and how to join

By the end of July, we intend to launch a Newsletter that will open a communication channel between all ERA-EDTA members that plan to join EURECAM. A website will be created to show information on joining and communicating with the WG. The Newsletter will be published every 2 months and will provide fresh information on meetings and research activities throughout Europe and will function as a sounding board for EURECAM activities. To avoid duplication of information, the Newsletter will not cover literature reviews or alerts since these are already well covered by *Nephrology Dialysis Transplantation* educational, an alternate communication resource of the ERA-EDTA. The EURECAM-Newsletter (EURECAM News) will nevertheless provide updated links to *Nephrology Dialysis Transplantation* educational. Information on EURECAM activities will be also disseminated via Follow Us, the periodic newsletter from the ERA-EDTA council.

Collaboration is a fundamental component of research activity at all levels of research and in all countries. Effective cooperation can be driven by designing consonant top-

down and bottom-up objectives. Enabling clinicians and basic science investigators to participate in networks aimed at pursuing valuable and reachable research goals is the ambitious task of EURECAM. This initial report on the foundation activities of the WG aims to provide a reference benchmark and a basis for setting collaborations and at identifying a shared territory of interest. In closing, we encourage interested clinicians and researchers to join and to help grow this new initiative by the ERA-EDTA by sharing their enthusiasm, ideas and suggestions.

Conflict of interest statement. None declared.

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