The CLARIFY Registry

– Backgrounder –

About CLARIFY

The CLARIFY registry (ProspeCtive observational LongitudinAl RegIstry oF patients with stable coronary arterY disease) is an international health survey designed to improve knowledge and increase understanding of coronary artery disease (CAD). CLARIFY aims to provide important epidemiological and clinical data on stable CAD patients, particularly related to heart rate, which will help improve the management of these outpatients and reduce the risk of cardiovascular events. CLARIFY will include a minimum of 30,000 outpatients with stable CAD from around 40 countries who will be followed for five years. This will make CLARIFY the largest registry ever carried out in stable CAD outpatients. The first patients are expected to be enrolled in the registry in October 2009.

Rationale

The CLARIFY registry has been set up to answer important unanswered questions in CAD. Current data on the characteristics and clinical care of patients with stable CAD come mainly from clinical trials and existing patient registries – both of which have limitations. Clinical trials often have stringent exclusion criteria and fail to adequately represent outpatients with stable CAD, making their results unreflective of daily practice. Similarly, while previous registries have attempted to capture the patient population with stable CAD, most of these focus on patients with acute events or on a single variable, for example one country or centred around patients with only anginal symptoms. In addition, some studies are cross-sectional and therefore do not allow links to be established between baseline characteristics, management and subsequent outcomes. Overall, this severely limits the generalisability of findings from randomised clinical trials and most registries.

CLARIFY has been designed in response to the need for a longitudinal observation of a representative large cohort of patients with stable CAD, spanning several geographic regions, focusing on stable outpatients (as opposed to patients hospitalised or recently discharged from hospital for acute manifestations), and including both symptomatic and asymptomatic patients. CLARIFY will also address the need to obtain long-term determinants of prognosis in CAD. It will capture all suspected important determinants of outcome in order to analyse, not only baseline characteristics and management practices, but also outcomes and prognostic determinants such as resting heart rate. Clear evidence-based data on the role of resting heart rate in stable CAD patients is needed as a potential long-term prognostic determinant in this population.

Aims and objectives

CLARIFY has been set up to gather information about the characteristics, management, outcomes and prognosis of patients with stable CAD. In particular, the registry will provide key information on:

- The current profile of the CAD patient population, including demographics and clinical features
- Current daily treatment practices in CAD – with a focus on how closely guidelines are being adhered to and the extent of evidence-based practice
- Changing patterns in stable CAD management during the 5-year registry follow-up period
- Variations in how CAD patients are managed according to geography, type of physician and patient characteristics
- Factors which determine the long-term prognosis for patients with CAD, including the role of resting heart rate.

Overall, the main objectives of CLARIFY are:

1) To characterise contemporary CAD patients in terms of their demographic characteristics, clinical profiles, management and outcomes – and to identify gaps between treatment and evidence
2) To determine long-term prognostic factors in this group of patients including the role of resting heart rate, with a view to developing a risk prediction model.

Design

CLARIFY is an international, prospective, observational, longitudinal registry in stable CAD patients, with a five-year follow-up period. The registry will collect important data on the current status of outpatients with stable CAD. This will include details of patients' demographic characteristics, their clinical profiles, therapeutic strategies (i.e. how their CAD is being treated) and outcomes. As part of the longitudinal design of CLARIFY, a minimum of 30,000 subjects will be followed up for five years and data will be collected prospectively at annual visits at 12, 24, 36, 48 and 60 months. Because of the considerable geographic variation in the epidemiology of stable CAD, CLARIFY has been designed as an international registry to yield representative data from various regions and countries around the world. It is hoped that this strategy will enhance the value of the results and provide information on international variability in CAD disease presentation and management.

Participating patients

The population of patients included in the CLARIFY registry is intended to reflect the entire spectrum of outpatients with stable CAD. The database will include outpatients with CAD proven by a history of at least one of the following criteria:

- A documented heart attack (myocardial infarction) which occurred more than three months ago
- A coronary stenosis blocking more than 50% of the artery, as proven by angiography
- Chest pain with evidence of heart muscle oxygen deprivation (myocardial ischemia) as proven by one of the following diagnostic tests – stress ECG, stress echocardiography or myocardial imaging
- A coronary artery bypass graft (CABG) or percutaneous coronary intervention (PCI) procedure which was carried out more than three months ago.

Data collection

Doctors (including cardiologists and primary care physicians) will be responsible for adding patients to the registry. In all cases, management and treatment of patients will carry on as usual so patient care will not be influenced by participation in the registry. At baseline (i.e. when first joining the CLARIFY registry) and at each annual visit, patients will be evaluated for:

- Demographic information
- Employment status
- Medical history
- Risk factors
- Physical examination
- Heart rate
- Laboratory values
- Current chronic medical treatments.

Every year for up to five years, morbidity and mortality data will be collected on patients. This will include information on the occurrence of cardiovascular events such as heart attack, stroke and hospitalisation.

In summary, CLARIFY will fulfil the need for a CAD registry that reflects daily practice in the outpatient community, and provides important contemporary data on this disease. This up-to-date information is needed as the clinical characteristics, risk factors, treatment and outcomes of patients with CAD has changed markedly over recent years. CLARIFY should help improve the care of patients with CAD by providing cardiologists and primary care physicians with a greater understanding of patient management and outcomes.

Answering questions about heart rate

In spite of extensive evidence illustrating the importance of resting heart rate in the prognosis of stable CAD, heart rate is not yet a routine component of cardiovascular risk assessment nor a deciding factor in whether treatment is initiated. The recently published 4th European guidelines on cardiovascular disease prevention recommend that heart rate be an integral part of the assessment of total cardiovascular risk.[1] Despite this, data on the heart rate actually achieved in clinical practice is lacking. CLARIFY will fill these information gaps by using a dataset in which resting heart rate is carefully and reliably measured. This is critical to assessing the role of heart rate in the prognosis of stable CAD patients.

Key roles

Servier, France's leading pharmaceutical company, is sponsoring the CLARIFY registry. The CLARIFY Executive Committee is composed of international experts in the field of CAD:

- Philippe Gabriel Steg

  Director, Coronary Care Unit, Cardiology Department, Bichat-Claude Bernard Hospital, Paris

  Professor of Cardiology, Paris 7 University Denis Diderot, Paris

  Head of the Research Team “Clinical Research in Atherothrombosis”, INSERM U-698, Hôpital Bichat, Paris France

- Kim Fox

  Professor of Clinical Cardiology at the Royal Brompton Hospital

  Director of Speciality at the Royal Brompton and Harefield Hospitals

  Honorary Consultant Cardiologist, Chelsea and Westminster Hospital

  United kingdom

- Roberto Ferrari

  Professor of Cardiology, University of Ferrara

  Director of Cardiology at S Anna Universtiy Hospital of Ferrara

  Director of the Centre of Cardiovascular Research “S Maugeri”, Gussago, Brescia

- Ian Ford

  Director – Robertson Centre for Biostatistics

  United Kingdom

- Michal Tendera

  Professor and Chair of Cardiology at the Upper-Silesian Cardiac Centre, Silesian School of Medicine, Katowice Poland

- Jean-Claude Tardif

  Director of the Montreal Heart Institute Research Centre

  Professor of Medicine, Université de Montréal

  Canadian Institutes of Health Research, Chair in Atherosclerosis

  Montreal, Canada

The registry’s Steering Committee includes both Executive Committee members and all of the study’s national coordinators.

References

1) Graham I, Atar D, Borch-Johnsen K, *et al*. European guidelines on cardiovascular disease prevention I clinical practice: executive summary. Fourth Joint Task Force of the European Society of Cardiology and other societies on cardiovascular disease prevention in clinical practice (constituted by representatives of nine societies and by invited experts). *Eur J Cardiovasc Prev Rehabil*. 2007 Sep;14 Suppl 2:E1-40