Antithrombotic therapy is associated with better survival in patients with severe heart failure and left ventricular systolic dysfunction (EPICAL study)

M. Echemanna a,b, F. Allá a,b, S. Briançon a, Y. Juillièrê c, J. M. Virion a,b, P. M. Mertèsc, J. P. Villemot c, F. Zannad b,c,d and on behalf of the EPICAL Investigators e

a Service d'Epidémiologie et d'Evaluation cliniques, Hôpital Marin, CHU, Nancy, France
b Centre d'Investigation Clinique (CIC-INSERM), CHU, Nancy, France
c Services de Cardiologie et de Chirurgie Cardiaque, CHU, Nancy, France
d Thérapeutique-Faculté de Médecine, Université Henri Poincaré, Nancy, France
e Participating Hospitals in, Lorraine, France

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Abstract

Background: In patients with congestive heart failure (CHF), clinical trials have demonstrated the benefit of a number of drugs on morbidity and mortality. Nevertheless so far, there is no published controlled study of long-term antithrombotic therapy in patients with CHF. The aim of this work was to identify the relationship between cardiovascular drug use, especially antithrombotic therapy, and survival of CHF patients in current clinical practice, using an observational, population-based database.

Methods: The EPICAL study (Epidémiologie de l'Insuffisance Cardiaque Avancée en Lorraine) has identified prospectively all patients with severe CHF in the community of Lorraine. Inclusion criteria were age 20–80 years in 1994, at least one hospitalisation for cardiac decompensation, NYHA III/IV HF, ventricular ejection fraction ≤30% or cardiothoracic index ≥60% and arterial hypotension or peripheral and/or pulmonary oedema. A total of 417 consecutive patients surviving at hospital discharge were included in the database. The average follow-up period was 5 years. Univariate Cox models were used to test the relationship of baseline biological and clinical factors to survival. Cardiovascular drug prescriptions were tested in a multivariate Cox model adjusted by other known predictive factors.

Results: Duration of disease >1 year, renal failure, serum sodium ≥138 mmol/l, old age, serious comorbidity, previous decompensation, high doses of furosemide and vasodilators use were independently associated with poor prognosis at 1 and 5 years. Oral anticoagulants, aspirin, lipid lowering drugs and beta-blockers use were associated with better survival. There was no interaction between aspirin and angiotensin converting enzyme inhibitor use on survival.
**Conclusion:** Antithrombotic therapy was associated with a better long-term survival in our study population of severe CHF. These results together with other previously published circumstantial evidence urge for a prospective, controlled and randomised trial specifically designed to evaluate optimal oral anticoagulants and aspirin in patients with congestive heart failure.

**Author Keywords:** Severe heart failure; Antithrombotic treatment; Survival; Epidemiology