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CLINICAL RESEARCH

The major element of 1-year prognosis in acute coronary syndromes is severity of initial clinical presentation: Results from the French MONICA registries

La majorité du pronostic à un an des syndromes coronariens aigus est associée à la sévérité de la présentation clinique initiale. Résultats des registres français MONICA

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Abbreviations: ACS, acute coronary syndrome; CABG, coronary artery bypass graft; CI, confidence interval; PCI, percutaneous coronary intervention; STEMI, ST-elevation myocardial infarction; UA/NSTEMI, unstable angina/non-ST-elevation myocardial infarction.

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KEYWORDS
Coronary artery disease;
Acute coronary syndrome;
Sudden death;
Mortality;
Prognosis

Summary
Background. — While the death rate from acute coronary syndromes (ACS) has been in decline for more than 50 years, out-of-hospital mortality remains high despite improvements in care.
Aim. — To evaluate the importance of out-of-hospital mortality and identify the main predictors of in-hospital and 1-year mortality in France.
Methods. — Analyses were based on data from the French MONICA population-based registry, which included all cases of ACS occurring in people aged 35—74 years during 2006 in three geographic areas in France. We first evaluated out-of-hospital mortality; then, using data from patients with incident ACS who reached hospital alive, Cox models were performed to determine the main predictors of 1-year mortality. The number of attributable deaths was assessed for variables of interest.
Results. — After 1-year follow-up, case-fatality was 29.3% for incident events ($n = 2547$); the proportion of out-of-hospital deaths was 70.3%, and 91.5% of deaths occurred in the 28 days following the ACS. On multivariable analysis, the number of attributable deaths associated with three scenarios (out-of-hospital life-and-death emergency, hospitalization before ACS occurrence, and lack of coronary angiography) was 130 (accounting for 59% of deaths occurring after reaching the hospital) during 1-year follow-up. These scenarios corresponded to patients with an initial severe clinical presentation in whom rates of use of specific treatments and invasive procedures were very low.
Conclusion. — A large proportion of fatalities after an ACS occurs in the out-of-hospital phase. Moreover, the major component of 1-year mortality is associated with a poor prognosis at initial presentation. This finding highlights the importance of cardiovascular prevention, population education and better out-of-hospital emergency management in improving prognosis after an ACS.

MOTS CLÉS
Maladie coronaire ;
Syndrome coronaire aigu ;
Mort subite ;
Mortalité ;
Pronostic

Résumé
Rationnel. — La mortalité des syndromes coronariens aigus diminue depuis 50 ans. La mortalité extrahospitalière reste élevée malgré les améliorations de soins.
Objectif. — Évaluer l'importance de la mortalité extrahospitalière et les principaux facteurs prédictifs de la mortalité à un an en France.
Méthodes. — Données de l'année 2006 des registres français MONICA incluant exhaustivement tous les syndromes coronariens aigus entre 35 et 74 ans dans trois bassins géographiques. La mortalité extrahospitalière a été évaluée, les facteurs prédictifs de la mortalité à un an des SCA inauguraux hospitalisés ont été analysés par modèles de Cox. Le nombre de décès attribuables a ensuite été calculé pour des variables d'intérêt.
Résultats. — La létalité à un an des 2547 épisodes inauguraux était de 29,3 %. La proportion de décès extrahospitaliers était de 70,3 % ; 91,5 % des décès survenant dans les 28 jours suivant l'hospitalisation. Le nombre de décès attribuables à trois situations identifiées à partir de l'analyse multivariée (menaces vitales pré-hospitalières, sujets déjà hospitalisés et patients sans coronarographie) était de 130 à un an, soit 59 % des décès survenant chez les sujets arrivés vivants à l'hôpital. Ces situations correspondaient à des patients déjà très graves initialement et ne bénéficiant pas des traitements habituels.
Conclusion. — La majorité des décès surviennent à la phase pré-hospitalière. De plus, la majorité des décès à un an est associée à un tableau déjà grave avant la médicalisation. Cela démontre l'importance de la prévention, de l'éducation de la population et d'une amélioration de la prise en charge pré-hospitalière.

Introduction

Management of acute coronary syndromes (ACS) has improved greatly over the past few decades, with important consequences in terms of the epidemiology of coronary heart disease. Mortality is determined by incidence (incident events or recurrences) and by lethality (at the acute phase and over the long term). The mortality rate after an ACS has been in decline for more than 50 years throughout the world, but some geographic differences have been reported [1—4]. In the United States, the rate of death from coronary heart disease decreased by 59% between 1950 and 1999 [5]. This improvement was associated primarily with a decrease in the case-fatality of acute events, and in a more inconsistent way with a decrease in incidence of ACS [6—12]. However, recent data from France suggest that overall mortality has decreased slowly, mainly due to a decrease in incidence of coronary heart disease, whereas short-term case-fatality