



ORIGINAL ARTICLE

The use of reperfusion and revascularization procedures in acute coronary syndrome in Portugal: A systematic review



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Angioplasty;
Coronary artery bypass;
Fibrinolysis;
Myocardial revascularization

Abstract

Introduction and Objectives: Reperfusion and revascularization therapies play an important role in the management of coronary heart disease and have contributed to decreases in case fatality rates. We aimed to describe the use of these therapies for the treatment of acute coronary syndrome (ACS) patients over time in Portugal.

Methods: PubMed was searched in July 2012. The proportion of patients treated with fibrinolysis, primary percutaneous coronary intervention (PCI), any PCI and coronary artery bypass grafting (CABG) was described according to type of ACS: STEMI ($\geq 90\%$ patients with ST-segment elevation or Q-wave myocardial infarction), NSTEMI-ACS ($\geq 90\%$ patients with non-ST-segment elevation ACS) and mixed ACS (all others).

Results: We identified 41 eligible studies, published between 1989 and 2011. Twenty-eight reported on samples considered representative of ACS patients treated in Portugal. The small number of estimates of the use of each treatment in STEMI and NSTEMI-ACS patients precluded identification of any time trend. In the last 20 years, the proportion of mixed ACS patients treated with fibrinolysis decreased and the use of PCI increased, while the use of CABG did not change.

Conclusions: The general pattern of the use of reperfusion and revascularization is in accordance with that reported in other developed countries, reflecting a favorable trend in the quality of care of ACS patients. The relatively small number of estimates on the same procedure in comparable patients limits the generalizability of the conclusions, and highlights the need for systematic approaches to monitor the use of treatments over time.

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PALAVRAS-CHAVE

Síndrome coronária aguda;
Angioplastia;
Cirurgia de revascularização coronária;
Fibrinólise;
Revascularização miocárdica

Uso de procedimentos de reperfusão e revascularização na síndrome coronária aguda em Portugal: revisão sistemática**Resumo**

Introdução e objetivos: A reperfusão e revascularização desempenham um importante papel no tratamento da doença coronária contribuindo para a diminuição da letalidade. Foi nosso objetivo descrever o uso destes procedimentos no tratamento da síndrome coronária aguda (SCA) ao longo do tempo em Portugal.

Métodos: A pesquisa foi efetuada na Pubmed em julho de 2012. A proporção de doentes tratados com fibrinólise, angioplastia primária, qualquer tipo de angioplastia e cirurgia de revascularização coronária (CABG) foi descrita de acordo com o tipo de SCA: SCA supra-ST (quando a proporção de doentes com elevação do segmento ST ou enfarte do miocárdio com ondas Q era $\geq 90\%$), SCA sem-ST (quando a proporção de doentes com SCA sem elevação do segmento ST era $\geq 90\%$) e SCA misto (restantes casos).

Resultados: Foram identificados 41 estudos publicados entre 1989 e 2011. Vinte e oito estudos descreveram amostras representativas dos doentes com SCA tratados em Portugal. O baixo número de estimativas de cada tratamento nos doentes com SCA supra-ST e sem-ST, impossibilitou a observação de tendências temporais. Nos últimos 20 anos, a proporção de doentes com SCA misto tratados com fibrinólise diminuiu, o uso de angioplastia aumentou, enquanto o uso de CABG não se alterou.

Conclusões: O padrão do uso destes tratamentos está de acordo com dados publicados noutros países desenvolvidos, refletindo uma tendência favorável na qualidade dos cuidados prestados. O baixo número de estimativas do mesmo procedimento limitou a generalização de conclusões, reforçando a necessidade de alternativas para monitorizar o uso de tratamentos ao longo do tempo.

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Introduction

Coronary heart disease (CHD) is responsible for 7.3 million deaths yearly worldwide, corresponding to 12.8% of all deaths.¹ In Portugal, CHD was responsible for 23% of cardiovascular deaths in 2009,² though mortality rates have been decreasing since the 1980s, as in most developed countries.³

The increasing use of evidence-based treatments for acute coronary syndrome (ACS), including reperfusion therapy and revascularization procedures, has been reported to explain up to half of the decrease in CHD mortality rates in several developed countries.^{4,5} Continuous and comprehensive monitoring of the use of reperfusion and revascularization therapies for ACS patients in routine clinical practice is thus essential to evaluate the quality of care.

The Portuguese Registry of Acute Coronary Syndromes provides data on a large number of ACS events in the last decade, but only patients admitted to some cardiology departments in the country are registered and consecutive recruitment is not ensured, possibly limiting its representativeness.⁶ Other studies, based on samples of episodes, mainly single-center and resulting from the initiative of local physicians or academic researchers, have been published and could complement the registry data with coverage of other institutions and departments and a greater time span.

Therefore, we performed a systematic review of published studies reporting on the use of reperfusion and

revascularization procedures in patients with ACS in Portugal.

Methods**Search strategy**

We searched PubMed from inception until July 2012 to identify original reports providing data on the proportion of patients with ACS, stable angina and heart failure treated with pharmacological and non-pharmacological therapies in Portugal. The search expression is provided in the systematic review flowchart (Figure 1). This report focuses on reperfusion and revascularization procedures in ACS. The reference lists of review articles on treatment of ACS patients were screened to identify other potentially eligible original studies.

Screening of reference lists

Two reviewers independently assessed the studies in two steps, following the same predefined criteria, to determine the eligibility of each report. In the first step irrelevant studies were excluded on the basis of the title and abstract only; when the abstract of a particular article was not available, the article was selected for further assessment, except when the title unequivocally presented evidence for

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