Relationship of peripheral and coronary artery disease to cardiovascular events in patients with atrial fibrillation

Daniele Pastori\textsuperscript{a,b}, Pasquale Pignatelli\textsuperscript{a}, Angela Sciacquac\textsuperscript{c}, Maria Perticone\textsuperscript{c}, Francesco Violi\textsuperscript{a,1}, Gregory Y.H. Lip\textsuperscript{b,d,⁎}

\textsuperscript{a} J Clinica Medica, Atherothrombosis Center, Department of Internal Medicine and Medical Specialties, Sapienza University of Rome, Rome, Italy
\textsuperscript{b} Institute of Cardiovascular Sciences, University of Birmingham, Birmingham, United Kingdom
\textsuperscript{c} Department of Medical and Surgical Sciences, University Magna Graecia of Catanzaro, Catanzaro, Italy
\textsuperscript{d} Aalborg Thrombosis Research Unit, Department of Clinical Medicine, Aalborg University, Aalborg, Denmark

\textsuperscript{⁎} Corresponding author at: Institute of Cardiovascular Sciences, University of Birmingham, Birmingham, United Kingdom.
\textsuperscript{1} Joint senior authors.

**Abstract**

Background: To investigate the impact of concomitant asymptomatic peripheral arterial disease (PAD) and pre-existing coronary artery disease (CAD) on cardiovascular events (CVEs) in atrial fibrillation (AF) patients.

Methods: Prospective multicenter study including 1138 anticoagulated AF patients. PAD was diagnosed by can ankle-brachial index (ABI) ≤ 0.9, and CAD as a documented myocardial infarction (MI) or cardiac revascularization. The cohort was divided into 4 groups: group 0 (n = 717) with no previous CAD and ABI > 0.9; group 1 (n = 168) no previous CAD and ABI ≤ 0.9; group 2 (n = 183) previous CAD and ABI > 0.9; and group 3 (n = 70) previous CAD and ABI ≤ 0.9. The primary endpoint was a composite of CVEs.

Results: Mean age was 72.6 years and 41.3% were female. History of CAD was present in 253 (22.2%) patients, and previous CAD was in 253 (22.2%) patients, and 238 (20.9%) had an ABI ≤ 0.9. Patients with previous CAD were more likely to have a low ABI compared to those without (OR: 1.6, 95%CI 1.2–2.3, P = 0.003).

Median follow-up was 35.9 months (IQR 19.2–57.2, 3819 patient-years), and 145 CVEs were recorded (3.8%/year 95%CI 3.2–4.5). Survival analysis showed a progressive increase in the rate of CVEs in the four groups (log-rank test P ≤ 0.001). Multivariable Cox regression analysis showed that as compared to group 0, group 1 (HR: 1.8, 95%CI 1.4–2.3, P = 0.001), group 2 (HR: 2.2, 95%CI 1.4–3.4, P = 0.001) and group 3 (HR: 2.4, 95%CI 1.4–4.4, P = 0.003) were associated with progressive greater risk of CVEs.

Conclusion: Patients with concomitant CAD and asymptomatic PAD are at high risk of CVEs, with a progressive risk with vascular disease burden where PAD was associated with CAD.

© 2017 Elsevier B.V. All rights reserved.

1 Introduction

Peripheral artery disease (PAD) and coronary artery disease (CAD) are commonly prevalent in patients with atrial fibrillation (AF) [1]. At least one atherosclerotic risk factor may be found in almost 90% of patients with AF, with the most common ones being arterial hypertension, diabetes mellitus and dyslipidemia, as well as overt coronary artery disease (CAD) [2,3]. AF may frequently occur after a first myocardial infarction (MI) event, and the presence of AF has been shown to be associated with more severe CAD [4]. Conversely, AF patients with pre-existing CAD are at higher risk of ischemic complications, related to both thromboembolism and atherothrombosis [5,6].
the composite endpoint of death, MI, and stroke over 3 years of follow-up [17].

As both CAD and PAD may frequently coexist in AF, it is likely that an accentuated cardiovascular risk is detectable in AF patients with coexistent PAD and CAD. Nevertheless, there are limited published prospective data on the prognosis of AF patients with concomitant PAD and/or CAD [9]. Hence, our aim was to investigate the impact of asymptomatic PAD and pre-existing CAD, alone and/or in combination, on cardiovascular events (CVEs) in AF patients on oral anticoagulants.

2. Methods

We performed a prospective multicentre observational cohort study including non-valvular AF patients consecutively recruited from the Atherothrombosis Center of I Clinica Medica of “Sapienza” University of Rome and from the Department of Medical and Surgical Sciences, University Magna Graecia of Catanzaro, Italy from October 1, 2007, through June 30, 2016. All patients with non-valvular AF aged ≥18 years and treated with Vitamin K Antagonists were eligible for the study. Exclusion criteria were: presence of mechanical prosthetic heart valves or any severe valvulopathy, chronic infectious diseases (i.e. Human Immunodeficiency Virus infection, Hepatitis C Virus, Hepatitis B Virus) or autoimmune systemic disease, history of active cancer or liver insufficiency (e.g. cirrhosis). Moreover, patients with symptoms of PAD or with a history of peripheral artery revascularization were excluded from this analysis.

At baseline, data regarding comorbidities and concomitant therapies were collected, and anthropometric data were recorded. Cardiovascular risk factors were de...
دریافت فوری
متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات