Original article

Temporal trends in the premorbid use of preventive treatments in patients with acute ischemic cerebrovascular events and a history of vascular disease: The Dijon Stroke Registry (1985–2010)

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▪ Summary

Introduction > Although secondary prevention in patients with arterial vascular diseases has improved, a gap between recommendations and clinical practice may exist.

Objectives > We aimed to evaluate temporal trends in the premorbid use of preventive treatments in patients with ischemic cerebrovascular events (ICVE) and prior vascular disease.

Methods > Patients with acute ICVE (ischemic stroke/TIA) were identified through the population-based stroke registry of Dijon, France (1985–2010). Only those with history of arterial vascular disease were included and were classified into four groups: patients with previous coronary artery disease only (CAD), previous peripheral artery disease only (PAD), previous ICVE only, and patients with at least two different past vascular diseases (polyvascular group). We assessed trends in the proportion of patients who were treated with antihypertensive treatments and antithrombotics at the time of their ICVE using multivariable logistic regression models.

Results > Among the 5309 patients with acute ICVE, 2128 had a history of vascular disease (mean age 77.3 ± 11.9, 51% men; 25.1% CAD 7.5% PAD, 39.8% ICVE, and 27.5% poylvascular). A total of 45.8% of them were on antithrombotics, 64.1% on antihypertensive treatment, and 34.4% on both. Compared with period 1985–1993, periods 1994–2002 and 2003–2010 were associated with a greater frequency of prior-to-ICVE use of antithrombotics (adjusted OR = 5.94; 95% CI: 4.61–7.65, *P* < 0.01, and adjusted OR = 6.92; 95% CI: 5.33–8.98, *P* < 0.01, respectively) but not of antihypertensive drugs. Consistent results were found when analyses were stratified according to the type of history of arterial vascular disease.

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Conclusion > Patients with ICVE and previous vascular disease were still undertreated with recommended preventive therapies.

■ Résumé

Évolution temporelle de l'utilisation des traitements de prévention secondaire chez les patients aux anté?cédents de maladie vasculaire et victimes d'un évènement cérébrovasculaire ischémique : registre dijonnais des AVC (1985–2010)

Introduction > Bien que la prévention secondaire des maladies vasculaires ischémiques se soit améliorée, un écart entre les recommandations et la pratique clinique pourrait exister.

Objectifs > Évaluer l'évolution temporelle de l'utilisation des traitements de prévention chez les patients aux antécédents de maladie vasculaire ischémique et victimes d'un évènement ischémique cérébrovasculaire (EICV).

Méthodes > Les patients victimes d'un EICV (infarctus cérébral ou AIT) furent identifiés à partir du Registre de population des AVC de Dijon (1985–2010). Seuls les patients aux antécédents de maladie vasculaire ischémique furent analysés et classés en 4 groupes : antécédent de coronaropathie seul (Co), antécédent d'artérite des membres inférieurs seul (AOMI), antécédent d'EICV seul, et patients avec au moins 2 atteintes différentes (groupe polyvasculaire). L'évolution temporelle de la proportion des patients recevant antérieurement un antihypertenseur et/ou un antithrombotique au moment de l'EICV fut analysée à l'aide de modèles multivariés de régression logistique.

Résultats > Parmi les 5309 patients victimes d'un EICV, 2118 avaient un antécédent de maladie vasculaire ischémique (âge moyen 77,3 ± 11,9 : 51 % d'hommes ; 25,1 % Co, 7,5 % AOMI, 39,8 % EICV, et 27,5 % poylvasculaire). Parmi eux, 45,8 % étaient sous antithrombotique, 64,1 % sous antihypertenseur et 34,4 % sous ces deux traitements. Comparées à la période 1985–1993, les périodes 1994–2002 et 2003–2010 étaient associées à une plus grande fréquence d'utilisation pré-morbide d'antithrombotiques (respectivement OR ajusté = 5,94 ; IC 95 % : 4,61–7,65, p < 0,01, et OR ajusté = 6,92 ; IC 95 % : 5,33–8,98, p < 0,01) mais pas d'antihypertenseurs. Des résultats similaires furent observés en analyses stratifiées selon la nature de l'antécédent de maladie vasculaire ischémique.

Conclusion > Une sous-utilisation des traitements de prévention secondaire persiste chez les patients aux antécédents de maladie vasculaire ischémique victimes d'un EICV.

Introduction

The incidence of arterial vascular diseases is decreasing in high-income countries thanks to major improvements in primary prevention that took place over the last two decades [1,2]. The global burden of these conditions remains high. Ischemic heart disease and stroke account for the first and second cause of years of life lost [3], and their prevalence is rising [1,2]. These trends reflect both population growth and aging, and are expected to go on in coming years. Patients with a history of vascular disease are at risk of recurrent events in either the same or another vascular bed [4,5]. There has been considerable progress in secondary prevention of coronary artery disease (CAD), ischemic cerebrovascular events (ICVE), and peripheral arterial disease (PAD), thanks to randomized clinical trials that highlighted the efficacy of therapies in reducing the risk of ischemic recurrence and mortality. As a result, guideline recommendations for secondary prevention of arterial vascular diseases have been established. Several studies have pointed out that a gap may exist between current evidence-based recommendations and clinical practice [6–17].

This study aimed to determine whether medical practices have changed over the last three decades, with regard to the use of medications indicated in secondary prevention of arterial vascular diseases so as to identify potential targets to reduce recurrences.

Methods

Case-ascertainment procedures

Patients were identified from the Dijon Stroke Registry, a population-based study that has evaluated the epidemiology of stroke and transient ischemic attack (TIA) among the residents of the city of Dijon, France (2007 census: 151,543 inhabitants)