Stroke and effectiveness of follow-up in primary care

Ictus y efectividad del seguimiento en atención primaria

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Abstract

Introduction: Stroke management with effective individualized secondary prevention can provide substantial gains in preventing cerebrovascular disease and death.
Objective: To determine whether patients who have suffered a stroke are being followed up in general practice.
Methods: A cross-sectional study was conducted involving 37 general practitioners who cared for 51 patients treated for ischemic stroke between 2020 and 2021.
Results: In 148 consultations (39%) stroke was documented as a theme, 71 (19%) of the consultations had a stroke as the central theme.
Conclusions: When stroke was a reason for consultation, guideline recommendations were often not followed.

Keywords: stroke, primary care, follow-up, general practitioners. source: DeCS
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Resumen

Introducción:El manejo del ictus con una prevención secundaria individualizada eficaz puede proporcionar ganancias sustanciales en la prevención de la enfermedad cerebrovascular y la muerte.
Objetivo:Determinar si los pacientes que han sufrido un ictus están siendo seguidos en la práctica general.
Método:Se realizó un estudio transversal queincluyó a 37 médicos generales que atendieron a 51 pacientes tratados por accidente cerebrovascular isquémico entre 2020 y 2021.
Resultados:En 148 consultas (39%) se documentó el ictus como tema, 71 (19%) de las consultas tenían como tema principal el ictus.
Conclusiones:Cuando el accidente cerebrovascular era motivo de consulta, a menudo no se seguían las recomendaciones de las guías.

Palabras clave: ictus, atención primaria, seguimiento, médicos generales fuente :DeCS

Introduction

Ischemic stroke is a common disorder with wide-ranging personal and social consequences. Worldwide, stroke is considered the third most common cause of death[1]. Patients with recurrent strokes have more adverse clinical outcomes and costs are higher compared to patients who suffer a stroke for the first time.Having had the first stroke, a person has an increased risk of recurrent stroke; 11% within one year, 26% within 5 years and 39% within 10 years. Mortality after recurrent stroke is particularly high[2].

The risk factors for recurrent cerebrovascular events are well known. Management of these with effective individualized secondary prevention can provide substantial gains in preventing cerebrovascular disease and death. For example, based on estimates of the benefits of preventive measures for heart attack, it has been suggested that various secondary preventive measures in combination may reduce the risk of recurrent stroke by as much as 70% (3).

Adherence to recommendations for secondary prevention and providing patients with the necessary follow-up is challenging for health services. For example, although the management of secondary prevention for stroke and transient ischemic attack (TIA) may differ, reports on TIA follow-up may indicate that many patients do not receive secondary prevention at all. In addition, considerable undertreatment with statins in patients with prior cardiovascular disease is documented, as is a decline in compliance over time (4). One response to such challenges has been developing and implementing clinical guidelines.

General practice is well placed to provide follow-up of stroke patients, but this potential is not necessarily fulfilled.The general practitioner (GP) is supposed to play a key role in the follow-up of patients who have suffered a stroke. In addition, the guidelines provide specific advice on the content of follow-up. It is recommended that stroke patients are routinely treated with lipid-lowering drugs in the form of statins and that blood samples for creatine kinase (CK) and transaminases are taken to monitor possible side effects of this treatment (5). The recommended target value for low-density lipoproteins (LDL) is < 2.0 mmol/L. The recommended target value for blood pressure (BP) is < 140/90 mmHg. Diet, body mass index (BMI), physical activity, alcohol consumption, and smoking affect the risk of stroke and recurrent stroke. Therefore, these lifestyle factors should also be part of post-stroke follow-up. However, it is not yet known to what extent patients are followed up in general practice in Ecuador, nor is it known whether follow-up conforms to guidelines. It is known that the development and distribution of guidelines alone are not sufficient for their application in general practice. Therefore, it is recommended to use more active methods for implementation, but even comprehensive active implementation does not necessarily lead to adherence to international clinical guidelines (6).

In this study, the aim was to investigate to what extent patients who have suffered a stroke are being followed up in general practice, whether the recommended procedures have been applied, and whether or not patients achieve the treatment targets recommended in international guidelines.

Method

A cross-sectional study involved 37 general practitioners in 18 primary care practices caring for 51 patients treated for ischemic stroke between 2020 and 2021. Patients with hemorrhagic stroke were omitted. This was because the guidelines do not apply to all forms of hemorrhagic stroke. This study was approved by the Universidad Regional Autónoma de Los Andes (UNIANDES). Only patients living in their homes who agreed to participate were invited to participate in the study. Therefore, patients in nursing homes were excluded.

All primary care practices maintained electronic medical records and each clinic provided access to the investigator.

Laboratory results from the registry, prescription, and diagnostic records were used to support the evaluation of the written text record of each practice.

The number of consultations with some content relevant to stroke follow-up was noted, and the number of consultations was mainly related to stroke. A note was made where we found that any of the lifestyle factors diet, BMI, physical activity, alcohol consumption or smoking had been addressed in the consultation. The study included those who had a recorded BMI also when it was recorded before the specific follow-up year. In addition, it was recorded whether or not the recommended blood tests were performed and the blood pressure measurements and LDL laboratory results, as these tests have guideline-specified targets, which are expected to be achieved.

The database and statistical processing of the data were performed and analyzed in the statistical program SPSS 26 (SPSS Inc., Chicago, IL, USA). Descriptive statistics were used for the results collection, presentation and interpretation.

Results

Among 100 invited physicians, 37 agreed to participate. These 37 physicians had 138 stroke patients from 2020 and 2021 on their lists. All these 138 patients were invited to participate in the study, and 51 gave written consent. Age ranged from 38 to 90 years (mean 68.5 years). Thirty (59%) were men and 21 (41%) were women.

A total of 46 patients (90%) had suffered an acute stroke. Among these, 40 had their first stroke and 6 had a recurrent stroke. The remaining patients in the total group of 51 patients had a TIA after a previous stroke or a previous stroke with new symptoms not classified as a TIA and in whom a new stroke could not be detected. The stroke diagnosis was used in one patient but was not discussed further in the discharge summary. Five patients received acute thrombolytic treatment, and 19 were discharged with outpatient follow-up appointments.

These 51 patients had 381 consultations with their general practitioner in the first year after hospital discharge, a mean of 7.5 (0-24) consultations. In 148 consultations (39%), stroke was documented as a theme. 71 (19%) consultations had a stroke as the central theme. The clinical history in these cases referred mainly to stroke, although other topics were also discussed. On average, each patient had 1.4 (0-7) consultations mainly related to stroke during the first year of follow-up in general practice.

Table 1 shows the number (percentage) of relevant lifestyle data recorded in the medical records.

Table 1. Variables recorded and goals achieved

	Women (n =21)		Men (n=30)		Total (n=50)	
	N	%	N	%	N	%
Lifestyle[a]	7	33	9	30	16	31
BMI [b]	6	29	6	20	12	24
Diet[c]	2	10	1	3	3	6
physicalactivity[d]	4	19	2	7	6	12
Smoking [e]	1	5	3	10	4	8
Alcohol [f]	0	0	0	0	0	0
PA [j]	20	95	26	87	46	90
LDL [h]	13	62	15	50	28	55
GoalsAchieved						
PA [i]	11	52	13	43	24	47
LDL [k]	7	33	7	23	14	27

Source: statistical analysis, a Patients with any note on lifestyle performed the first year of follow-up, b Patients with a BMI measurement performed before or the first year after stroke, c Any note on a diet during the first year of follow-up, d Any note on the physical activity the first year of follow-up, e Any note on smoking the first year of follow-up. f Any notes on

alcohol consumption the first year of follow-up, j Blood pressure measured the first year of follow-up, h LDL measured the first year of follow-up, i BP < 140/90 mmHg at the last recording in the study period, k LDL < 2.0 mmol/L

At hospital discharge, 45 of the 51 patients were treated with statins. In the medical records of the attending physicians, we found confirmation of ongoing statin treatment in 39 patients. In our material, blood samples for CK and transaminases were taken in 8 (16%) of the 51 patients and in 7 of the 39 patients in whom we could find confirmatory information on ongoing statin treatment in the GPs' medical records.

Discussion

The study examined the follow-up of stroke patients in general practice and compared international guideline recommendations with real-life clinical practice. Almost all patients had their blood pressure measured during the first year of follow-up in general practice. However, only about half of the patients had reached the target blood pressure value. Fewer patients had their LDL cholesterol level measured and less than one-third of the patients reached the LDL cholesterol target value. In addition, limited diet and physical activity information was found and no alcohol consumption in the medical records.

Patients residing in the community had consulted their primary care physician more than seven times in the first year after being discharged from the hospital with a stroke diagnosis. The stroke was not necessarily the main concern in consultations with the primary care physician in this period; in fact, stroke was not documented as a problem in most of these consultations. The results reveal that the median number of consultations for stroke was one in the first year of follow-up. Stroke received limited attention in consultations with the primary care physician in the first year after the incident, although it is a serious condition. This may be because the stroke diagnosis faced competition from other issues perceived as equally important by the patient or the primary care physician at the consultation time.

The guidelines provide evidence-based advice on the follow-up of stroke survivors. They are based on a comprehensive review of a large body of research and are intended to ensure good clinical practice. They can be considered a map that orients and guides the most important clinical decisions for treating patients who have suffered a stroke[7,8]. The study, however, shows that this map does not agree with the field in general practice.

Based on the medical records of general practitioners, this study investigates how patient follow-ups have been recorded. It does not involve any form of possible biased self-reporting. Patient inclusion started broad and although the participation rate was low, the investigators made no selection. The same person performed all data collection. Thus, there were no differential practices in chart review or data recording. Nevertheless, the possibility of intraobserver variation is still present.

A low degree of adherence to the guideline was found and there is no reason to believe that the family physicians who agreed to participate in this study have a less optimal practice than those who declined the request. On the other hand, there is some indication to the contrary. For example, when making reminder phone calls to all invited GPs who did not respond to the invitation letters, one GP admitted that he was afraid that the investigators would investigate his practice.

In addition to a low participation rate among general practitioners, there was also a low degree of participation among patients. Possible explanations for this could be poor health, advanced age, and deteriorating physical and mental functioning of the patients. For example, to exclude one patient, this person's partner had signed a declaration of consent, with no documentable transfer of authority for consent. In addition, it has been shown that the treatment burden experienced

among people with stroke is considerable[9,10] and combined with reduced patient capacity, this may also be the reason for the low degree of participation among invited patients.

In addition, physicians do not necessarily document all consultation issues. Therefore, the primary care physician or the patient may have addressed issues without being included in the counts. Despite these weaknesses, the findings are valid for performing secondary stroke prevention in general practice.

Patients often consult their general practitioners in the period after they have suffered a stroke. Thus, the study is consistent with previous statements that general practice is well positioned to follow up with patients who have suffered a stroke[11,12]. The reasons for the lack of adherence to guidelines are largely unknown. It may be that general practitioners are unaware of the recommendations for secondary prevention after stroke[13], that the guidelines do not fit the complexity of patients, or that the guidelines are poorly adapted to general practice in other respects[14]. There are also critical questions about whether the theoretical basis for the clinical guidelines is good enough, as the guidelines are mostly organ-specific. This results in a high degree of complexity in general practice, where patients have many diseases simultaneously [15]. It is also documented that international expert guidelines are not implementable in Ecuadorian general practice because the recommended resource utilization is incompatible with available resources. For example, it has been estimated that the international guidelines on high blood pressure alone impose a workload that exceeds the total work capacity of Ecuadorian general practitioners. Nevertheless, to the extent that the guidelines are followed for the recommended procedures carried out, it is a recognized problem that this need not significantly affect patients' health goals[16]. It is known that lifestyle adjustments can reduce stroke risk and that lack of knowledge is the main obstacle to patients achieving this benefit. Therefore, the guidelines are explicit about lifestyle; they give recommendations on physical activity, diet, and alcohol consumption in addition to BMI. However, a salient finding of this study is the absence of such lifestyle advice, and especially on diet and alcohol consumption. This corresponds to previous findings that patients report receiving little or no lifestyle information after stroke[17,18]. Future research is recommended to explore the reasons for noncompliance with guidelines. Other studies point out that most patients with a chronic disease in primary care also have other chronic diseases,multimorbidity[19]. In addition, most people over 65 years of age are multimorbid[20]. Therefore, the research group will continue to investigate stroke follow-up in the presence of multimorbidity. General practice does not aim to focus on a single disease but practices an integrated approach. Understanding this complexity could answer why the follow-up of stroke patients seems to be so limited in general practice.

Conclusions

Although patients frequently consulted their primary care physicians the first year after stroke, most consultations concerned issues other than stroke. When stroke was an issue, guideline recommendations were often not followed. This means that even a medical condition considered serious might receive only limited attention in general practice. Since access to the general practitioner did not appear to be limited, the results may be due more to the complexity of general practice.

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