Real world effectiveness of warfarin among ischaemic stroke patients with atrial fibrillation: observational analysis from Patient-Centered Research into Outcomes Stroke Patients Prefer and Effectiveness Research (PROSPER) study

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STUDY QUESTION

What is the association between warfarin treatment at discharge from hospital and longitudinal outcomes after ischaemic stroke in patients with atrial fibrillation in community practice?

SUMMARY ANSWER

New prescription of warfarin treatment in patients with atrial fibrillation after stroke was associated with a lower risk of major adverse cardiovascular events (MACE), all cause mortality, and readmission for ischaemic stroke, as well as institution-free home time.

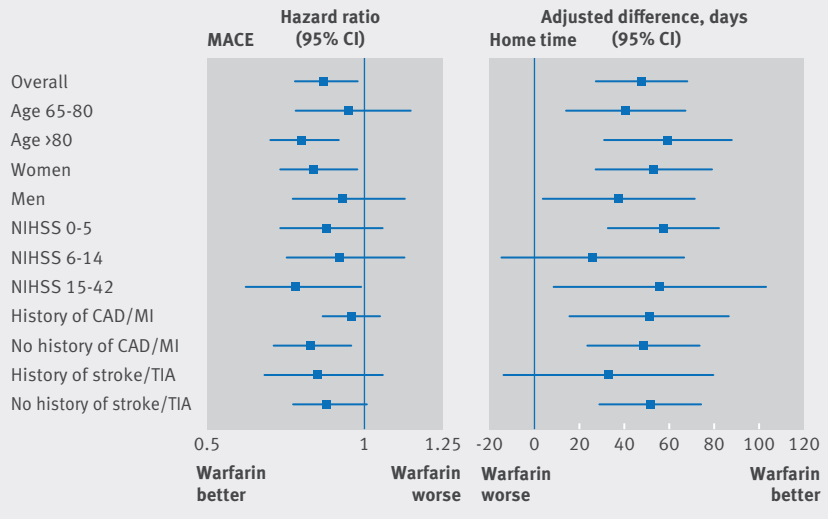
WHAT IS KNOWN AND WHAT THIS PAPER ADDS

Warfarin is recommended for the prevention of thromboembolism in atrial fibrillation patients, but the use and clinical benefit of warfarin outside the clinical trial setting is not well defined, especially among older ischaemic stroke patients. These findings support the routine use of warfarin for eligible ischaemic stroke patients with atrial fibrillation, including those aged over 80 years, women, those with more severe strokes, and those with comorbid conditions.

Participants and setting

This study took place in 1487 hospitals participating in the Get With The Guidelines-Stroke programme in the United States from 2009 to 2011.

Major adverse cardiovascular events (MACE) and home time according to warfarin therapy at discharge



CAD=coronary artery disease; MI=myocardial infarction; NIHSS=National Institutes of Health Stroke Scale; TIA=transient ischaemic attack

Design, size, and duration

We analysed 12 552 patients with atrial fibrillation who had never taken warfarin previously and were admitted to hospital for ischaemic stroke and treated with warfarin versus no oral anticoagulant at discharge. We linked in-hospital data to Medicare claims for longitudinal outcomes up to two years after discharge.

Primary outcome(s), risks, exposures

The main outcomes were MACE and home time, a patient centred outcomes measure defined as the total number of days alive and free from institutional care after discharge.

Main results and the role of chance

Among the included patients, 11 039 (88%) received warfarin at discharge. Warfarin treated patients were slightly younger and less likely to have a history of previous stroke or coronary artery disease but had similar severity of stroke as measured by the National Institutes of Health Stroke Scale. Relative to those not treated, patients treated with warfarin had more days at home (as opposed to institutional care) during the two years after discharge (adjusted home time difference 47.6, 99% confidence interval 26.9 to 68.2, days). Patients discharged on warfarin treatment also had a reduced risk of MACE (adjusted hazard ratio 0.87, 99% confidence interval 0.78 to 0.98), all cause mortality (0.72, 0.63 to 0.84), and recurrent ischaemic stroke (0.63, 0.48 to 0.83). These differences were consistent among clinically relevant subgroups by age, sex, stroke severity, and history of previous coronary artery disease and stroke.

Bias, confounding, and other reasons for caution

We did not have data on adherence to treatment and international normalised ratio during follow-up. Early discontinuation of treatment or poor adherence could potentially bias some of these findings.

Generalisability to other populations

Although we included a large study cohort of ischaemic stroke patients of different age groups, sex, stroke severity, and cardiovascular risk profiles, these results might not be extrapolated to patients in other countries.

Study funding/potential competing interests

This work was supported by an award from the Patient-Centered Outcomes Research Institute (PCORI). See full paper for competing interests statement.

Clinical trial registration Clinical trials NCT02146274.

Consumption of spicy foods and total and cause specific mortality: population based cohort study

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STUDY QUESTION

How does regular consumption of spicy foods influence mortality?

SUMMARY ANSWER

Regular consumption of spicy foods was inversely associated with total and certain cause specific mortality (cancer, ischaemic heart diseases, and respiratory diseases), independent of other risk factors of death.

WHAT IS KNOWN AND WHAT THIS PAPER ADDS

A beneficial role of spices and their major bioactive components has been reported in a variety of chronic disorders in experimental and small sized population studies. In this large prospective study, regular daily spicy food consumption was inversely associated with total and certain cause specific mortality.

Participants and setting

A total of 512 891 participants aged 30 to 79 years were enrolled in 2004-08 from 10 geographically diverse rural and urban areas across China in the China Kadoorie Biobank study.

Design, size, and duration

This was a population based prospective cohort study. The final analyses included 199 293 men and 288 082 women with no history of cancer, heart disease, and stroke. Spicy food consumption was self reported once at baseline. The main outcome measures were total and cause specific mortality.

Main results and the role of chance

During 3.5 million person years of follow-up (median 7.2 years), 11 820 men and 8404 women died. Spicy food consumption showed highly consistent inverse associations with total mortality among both men and women after adjustment for other known or potential risk factors. In the whole cohort, compared with those who ate spicy foods less than once a week, adjusted hazard ratios for death were 0.90 (95% confidence interval 0.84 to 0.96) for those who ate spicy food 1 or 2 days a week, 0.86 (0.80 to 0.92) for 3 to 5 days a week, and 0.86 (0.82 to 0.90) for 6 or 7 days a week. The inverse association between spicy food consumption and total mortality was stronger in those who did not consume alcohol than those who did (P=0.033 for interaction). Inverse associations were also observed for deaths due to cancer, ischaemic heart diseases, and respiratory diseases.

Associations of spicy food consumption six or more days a week with total and cause specific mortality*

Cause of death	Hazard ratio (95% CI)
All causes	0.86 (0.82 to 0.90)
Cancer	0.92 (0.85 to 0.99)
Ischaemic heart diseases	0.78 (0.67 to 0.89)
Cerebrovascular diseases	0.96 (0.87 to 1.07)
Diabetes	0.82 (0.63 to 1.05)
Respiratory diseases	0.71 (0.62 to 0.81)
Infections	0.83 (0.60 to 1.15)
All other causes	0.86 (0.77 to 0.95)

*Reference group: participants who ate spicy foods less than once a week.

Bias, confounding, and other reasons for caution

Although we adjusted for several established and potential risk factors for death, residual confounding by other unmeasured or unknown biological and social factors was still possible. We excluded participants with cancer, heart disease, and stroke to minimise potential reverse causality. Even excluding participants who died during the first two years of follow-up did not appreciably alter the results. The consumption of spicy foods was self reported, and therefore measurement error is inevitable. However, in a prospective study design, measurement error may be non-differential and the measure of association is more likely to be biased towards the null.

Generalisability to other populations

The generalisability of our findings to other populations has yet to be determined. The results may be generalisable to populations that use foods mostly spiced with chilli pepper.

Study funding/potential competing interests

This work is supported by the National Natural Science Foundation of China, Chinese Ministry of Science and Technology, Wellcome Trust in the UK, and Kadoorie Charitable Foundation in Hong Kong. All researchers are independent of the study funders.

Incidence of gastric cancer among patients with gastric precancerous lesions: observational cohort study in a low risk Western population

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STUDY QUESTION

What is the incidence of gastric cancer among patients with different gastric precancerous lesions on endoscopy?

SUMMARY ANSWER

Among patients who undergo gastroscopy with biopsy for clinical indications, approximately 1 in 256 with normal mucosa, 1 in 85 with gastritis, 1 in 50 with atrophic gastritis, 1 in 39 with intestinal metaplasia, and 1 in 19 with dysplasia will develop gastric cancer within 20 years.

WHAT IS KNOWN AND WHAT THIS PAPER ADDS

The precise long term incidence of gastric cancer in patients with precancerous lesions, identified through a gastroscopic stomach biopsy for non-malignant indications, is not well quantified. Data from this study may help guide the development of long term endoscopic surveillance policies in low risk Western patient populations with these precancerous conditions.

Participants and setting

Taking advantage of the complete computerised registration of biopsy investigations and specimens examined at all Swedish pathology departments, we enrolled all patients registered with a gastroscopic stomach biopsy for non-malignant indications.

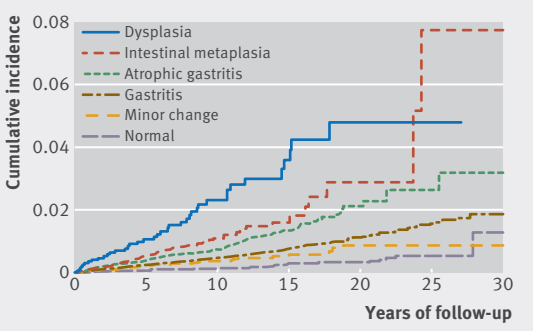
Design, size, and duration

This nationwide cohort study comprised 405 211 patients who had gastric biopsy samples taken for non-malignant indications between 1979 and 2011.

Main results and the role of chance

After excluding the first two years of follow-up, 1599 cases of gastric cancer were identified. The annual crude incidence of gastric cancer was 20×10^{-5} for those in the normal mucosa group (standardised incidence ratio 1.0), 42×10^{-5} for those with minor changes (1.5), 59×10^{-5} for the gastritis group (1.8), 100×10^{-5} for the atrophic gastritis group (2.8), 129×10^{-5} for the intestinal metaplasia group (3.4), and 263×10^{-5} for the dysplasia group (6.5). Cox regression modelling confirmed that excess risks increased monotonically with progressive severity of gastric lesions, with the highest hazard ratio of 10.9 (dysplasia versus normal mucosa, 95% confidence interval 7.7 to 15.4). The increased incidence was stable throughout the follow-up period, and the gaps between cumulative incidence curves grew continuously.

Cumulative incidence of gastric cancer among patients with different baseline diagnoses. First two years of follow-up excluded



Bias, confounding, and other reasons for caution

The study was limited to patients who underwent gastroscopy with biopsy for clinical indications. Therefore our findings cannot be readily generalised to non-patients (or healthy people who undergo screening). In addition, sampling error, as well as inter-observer and intra-observer variations, can affect the disease diagnosis of the investigated gastric lesions. Finally, we did not have information about factors such as family history and environmental or lifestyle exposures, which could potentially be used to further risk stratify patients.

Generalisability to other populations

The finding of this study can be generalised to populations who undergo gastroscopic biopsy for clinical indications in other Western countries with a low risk of gastric cancer.

Study funding/potential competing interests

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