



<b>Title</b>	<b>Garlic intake is an independent predictor of endothelial function in patients with ischaemic stroke</b>
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## Garlic intake is an independent predictor of endothelial function in patients with ischaemic stroke

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**Objectives:** To investigate the effects of garlic on endothelial function in patients with ischaemic stroke (ISS).

**Methods:** A total of 125 Chinese patients with prior ISS due to athero-thrombotic disease were recruited from the out-patient clinics during July 2005 to December 2006. Daily allium vegetable intake (including garlic, onions, Chinese chives and shallots) was ascertained by means of a validated food frequency questionnaire for Chinese and brachial artery flow-mediated dilatation (FMD) was measured using high-resolution ultrasound in all subjects.

**Results:** The mean age of the study population was 65.9±11.1 years and 69% were males. Mean allium vegetable intake and garlic intake of the study population was 7.5±12.7 g/day and 2.9±8.8 g/day, respectively. Their mean FMD was 2.6±2.3%. Daily intake of total allium vegetable ( $r=0.36$ ,  $P<0.01$ ) and garlic ( $r=0.34$ ,  $P<0.01$ ) significantly correlated with FMD. Using the median daily allium vegetable intake as cut-off (3.37 g/day), patients with a low allium intake <3.37 g/day was noted to have a lower FMD compared to those with a normal allium intake (2.1±2.1% vs 3.0±2.4%,  $P<0.05$ ). After adjusting for confounding factors, multivariate analysis identified that daily allium vegetable ( $B=0.05$ , 95% confidence interval [CI]: 0.02-0.09,  $P<0.01$ ) and garlic ( $B=0.07$ , 95% CI: 0.02, 0.12,  $P<0.01$ ) intake, but not onions, Chinese chives and shallots were independent predictors for changes in FMD in patients with ISS.

**Conclusions:** Daily garlic intake is an independent predictor of endothelial function in patients with ISS and may play a role in the secondary prevention of atherosclerotic events.

## Roles of the CHADS<sub>2</sub> and CHA<sub>2</sub>DS<sub>2</sub>-VASc scores in post-myocardial infarction patients: risk of new occurrence of atrial fibrillation and ischaemic stroke

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**Introduction:** Patients with myocardial infarction are at risk of development of atrial fibrillation (AF) and ischaemic stroke. We sought to evaluate the prognostic performance of the CHADS<sub>2</sub> and CHA<sub>2</sub>DS<sub>2</sub>-VASc scores in predicting new AF and/or ischaemic stroke in post-ST segment elevation myocardial infarction (STEMI) patients.

**Methods:** A total of 607 consecutive post-STEMI patients without previously documented AF were studied.

**Results:** After a follow-up of 63 months (3184 patient-years), 83 (13.7%) patients developed new AF (2.8% per year). Patients with a high CHADS<sub>2</sub> score and/or CHA<sub>2</sub>DS<sub>2</sub>-VASc score were more likely to develop new AF. The annual incidences of new AF were 1.18%, 2.10%, 4.52% and 7.03% in patients with CHADS<sub>2</sub> of 0, 1, 2, and ≥3; and 0.39%, 1.72%, 1.83%, and 5.83% in patients with the CHA<sub>2</sub>DS<sub>2</sub>-VASc score of 1, 2, 3 and ≥4. The test discrimination of the CHA<sub>2</sub>DS<sub>2</sub>-VASc score (C-statistic=0.676) was superior to the CHADS<sub>2</sub> (C-statistic=0.632) for new AF. Furthermore, 29 patients developed ischaemic strokes (0.9% per year). Likewise, the incidences of stroke increased with increasing CHADS<sub>2</sub> (0.41%, 1.02%, 1.11% and 1.95% with CHADS<sub>2</sub> of 0, 1, 2, and ≥3) and CHA<sub>2</sub>DS<sub>2</sub>-VASc scores (0.39%, 0.49%, 1.02%, and 1.48% in patients with the CHA<sub>2</sub>DS<sub>2</sub>-VASc score of 1, 2, 3 and ≥4). The C-statistic of the CHA<sub>2</sub>DS<sub>2</sub>-VASc score as a predictor of ischemic stroke was 0.601, which was superior to that of CHADS<sub>2</sub> score (0.573).

**Conclusion:** The CHADS<sub>2</sub> and CHA<sub>2</sub>DS<sub>2</sub>-VASc scores can identify post-STEMI patients at high risk of AF and stroke, enabling close surveillance and prompt anticoagulation for stroke prevention.