**Supplementary Methods**

***Clinical variables***

A detailed definition of risk factors for hypertension was described in a previous study (Song et al. 2017). In brief, hypertension was defined as being present when a patient had been taking blood pressure-lowering agents, or had a resting systolic blood pressure ≥140 mmHg or diastolic blood pressure ≥90 mmHg on repeated measurements. Diabetes mellitus was diagnosed when the patient had a fasting blood glucose level ≥7.0 mmol/L, or was being treated with oral glucose-lowering medications or insulin. Hypercholesterolaemia was diagnosed if the patient had total cholesterol ≥6.2 mmol/L, low-density lipoprotein cholesterol ≥4.1 mmol/L, or if the patient had taken lipid-lowering medications after a diagnosis of hyperlipidemia. Coronary artery disease was defined as a history of myocardial infarction, unstable angina, or angiographically confirmed coronary artery occlusive disease. Patients were defined as smokers if they were current smokers or had stopped smoking within 1 year before the index stroke. Subjects whose recent mean weekly alcohol intake had regularly exceeded 300 g of ethanol were classified as heavy drinkers (Song et al. 2016).

**References**

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Song TJ, Park JH, Choi KH, Kim JH, Choi Y, Chang Y, Kim HJ, Moon J, Kim YJ, and Lee HW. 2017. Is obstructive sleep apnea associated with the presence of intracranial cerebral atherosclerosis? *Sleep Breath* 21:639-646. 10.1007/s11325-016-1450-9