Comparison of Risk Factors for Stroke Subtypes versus Acute Coronary Syndrome: A Population-Based Study

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Stroke and acute coronary syndromes (ACS) share risk factors, but population-based data on differential associations with stroke subtype and ACS are limited. We studied pre-morbid risk factors in stroke subtypes and acute coronary syndrome.

We studied all first-ever TIA/strokes and ACS from 2002-2012 in a population-based cohort (Oxford Vascular Study). Risk associations were compared by logistic regression, adjusted for age and sex, for hypertension, diabetes mellitus, hyperlipidaemia, atrial fibrillation, current smoking and over-weight (BMI > 25).

1913 TIA/ischaemic strokes (mean age 71.6 years, women 53.9%), 112 intracerebral haemorrhages (ICH) (mean age 71.0 years, 51.8% women) and 1191 ACS (mean age 71.35 years, 35.4% women) were studied. Compared to ACS, hypertension (adjusted OR=1.34, 95%CI=1.15-1.56, $p < 0.001$), hyperlipidaemia (1.27, 1.07-1.50, p=0.006) and atrial fibrillation (1.40, 1.12-1.76, p=0.004) were more strongly associated with TIA/ischemic stroke than with ACS. However, diabetes mellitus (0.71, 0.57-0.88, p=0.002), current smoking (0.62, 0.51-0.75, p= < 0.001) and over-weight (0.78, 0.65-0.93, p=0.007) were negatively associated with TIA/ischemic stroke compared with ACS. For ICH, hypertension (1.85, 1.22-2.81, p=0.004) was more strongly associated than with ACS, whereas hyperlipidaemia (0.56, 0.32-0.97, p=0.039), current smoking (0.40, 0.21-0.74, p=0.004) and over-weight (0.64, 0.42-0.99, p=0.045) were negatively associated. When ICH was compared with TIA/ischemic stroke, the negative associations with hyperlipidaemia (0.43, 0.25-0.74, p=0.002) remained. Results were unchanged after exclusion of TIA.

Diabetes mellitus, current smoking and obesity are more strongly associated with ACS than with stroke, whereas hypertension is a stronger risk factor for ischaemic and haemorrhagic stroke. Hyperlipidaemia is negatively associated with ICH.

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