History of aspirin use does not affect prognosis in patients with non-cardioembolic ischemic stroke					
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Introduction and Objective		Baseline Characteristics			
<p>Aspirin is commonly used as a secondary prevention treatment against ischemic stroke and transient ischemic attack (TIA). However, aspirin resistance is a common problem worldwide. The presence of aspirin resistance was found to be associated with an increased risk of recurrent stroke, death from all causes and vascular events. On the other hand, whether clinical aspirin treatment failure can predict a less optimal response to aspirin treatment in patients with acute ischemic stroke remains controversial. <i>This study would like to determine if aspirin treatment failure predicts the prognosis of patients who had acute non-cardioembolic ischemic stroke in terms of recurrent acute ischaemic stroke, any vascular events and all causes mortality.</i></p>		Age (Median, IQR) 68 (60-81)			
		Sex (Male no, %) 103 (63.2%)			
		Hypertension (%) 109 (66.9%)			
		Diabetes Mellitus (%) 44 (27.0%)			
		Hyperlipidemia (%) 60 (36.8%)			
		History of TIA or CVA (%) 40 (24.5%)			
		History of IHD 6 months or more before stroke (%) 17 (10.4%)			
		Use of Aspirin (%) 43 (26.4%)			
		NIHSS (median, IQR) 4 (2-8)			
		Type of Stroke			
		Large artery atherosclerosis 20 (12.3%)			
		Small vessel occlusion 110 (67.5%)			
		Other ischaemic stroke 33 (20.2%)			
		Any ICA stenosis (%) 8 (6.5%)			
Methods		Primary Outcome			
<p><u>Patient recruitment</u> All patients who were aged forty or above and were admitted to the acute stroke unit of Queen Elizabeth Hospital for acute ischemic stroke from 1st October 2014 to 5th January 2015 were screened for eligibility.</p> <p><u>Exclusion</u> Patients who have evidence of cardioembolism according to the TOAST criteria.</p> <p><u>Primary outcome</u> Recurrent acute ischaemic stroke within 24 months after the index event.</p> <p><u>Secondary outcome</u> Any cardiovascular events occurred within 24 months after the index event; all causes mortality</p> <p><u>Data extraction</u> Stroke registry of Queen Elizabeth Hospital, (prospectively collected by stroke nurses from every new stroke patient). Supplementary data as well as outcome data were traced retrospectively in the electronic clinical management system.</p> <p><u>Statistical Analysis</u> Overall survival is defined as the time (in months) between the date of the index event and the first recurrence. Covariates that are of known clinical interest in the Kaplan-Meier analysis will be selected for multivariate analysis using Cox’s proportional hazard models. Adjusted hazard ratios and the corresponding 95% confidence interval were reported.</p>		At 2 years follow up, 15 patients (9.2%) suffered from recurrent ischaemic stroke, of which 12 patients (7.4%) happened in the first year of follow up.			
		<u>Cox regression model to predict recurrent stroke</u>			
		Parameter	RR	95% C.I.	p
		Age	1.041	0.996-1.088	0.072
		Aspirin use	0.759	0.222-2.603	0.662
		LACI	3.696	1.154-11.835	0.028
		NIHSS 0-3	2.666	0.888-8.004	0.080
		Secondary Outcome			
		26 patients (16%) suffered from a cardiovascular event during the 24 months follow up period. Apart from the 15 patients who had recurrent ischaemic stroke, 2 patients suffered from transient ischemic attack, 4 from intracerebral haemorrhage, 1 from intraventricular haemorrhage and 4 from ischaemic heart disease. The all causes mortality was 13.5% .			
		<u>Cox regression model to predict mortality</u>			
		Parameter	RR	95% C.I.	p
		Age	1.036	1.001-1.073	0.046
		Aspirin use	1.552	0.642-3.750	0.329
		Haemorrhagic stroke	8.076	2.223-29.346	0.002
NIHSS 8 or more	2.556	1.082-6.042	0.032		
Strength and Limitation					
<u>Strength</u> This is the first study concerning atherosclerotic ischaemic stroke patients with previous aspirin use with only a very small proportion of patients lost to follow up.					
<u>Limitation</u> Small sample size; inadequate workup for large vessel disease due to limitation of public resources.					
Conclusion					
Prior aspirin use cannot be regarded as a surrogate risk factor for stroke recurrence and mortality. To compare the cardiovascular risk of patients with clinical aspirin failure to those without, a matched cohort study or can be planned in the future.					