

Characteristics and outcomes of COVID-19 associated stroke: a UK multicentre case-control study. Perry *et al.* (2020)

Supplemental materials

INDEX

Content	Page
Supplemental figures	1
Supplemental tables	3
Collaborators	5

SUPPLEMENTAL FIGURES

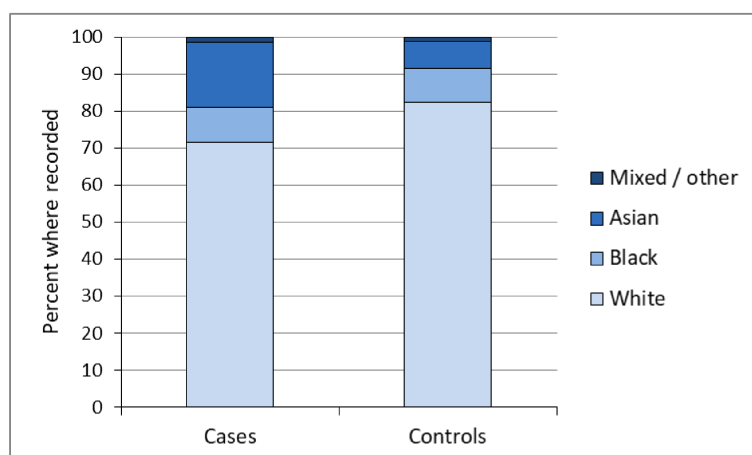


Figure S1 Ethnicity in cases and controls, including all strokes (ischaemic and haemorrhagic). Among patients presenting with stroke, the proportion (%) of patients in each ethnicity category is shown separately for cases (with evidence of COVID-19 at the onset of their stroke according to the definition given in the Methods section) compared with controls (negative on testing and/or in whom no evidence of COVID-19 was ever found). Only patients in whom ethnicity was recorded (86.0% of cases patients and 77.7% of controls) have been included.

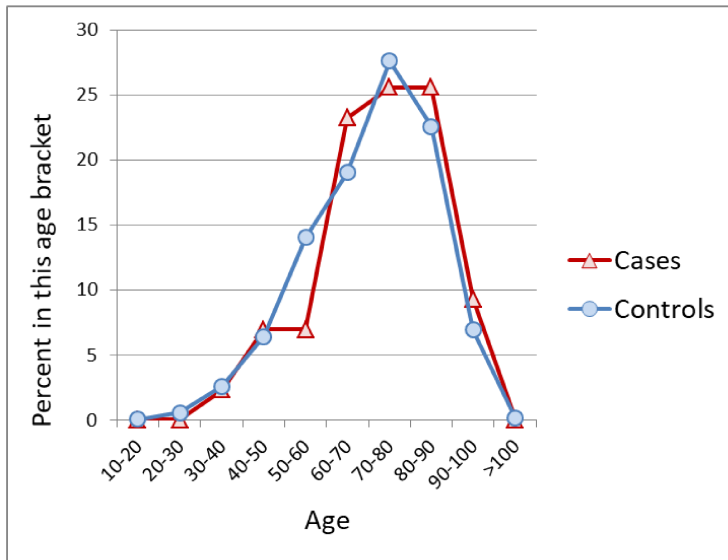


Figure S2 Age distributions in cases (who had evidence of COVID-19 at the onset of their stroke, red triangles) and in controls (who were SARS-CoV-2-negative on testing or never had evidence of COVID-19 infection, blue circles), including all strokes (ischaemic and haemorrhagic). The age distributions overlap very closely with no evidence of a sub-group of younger patients in cases.

SUPPLEMENTAL TABLES

Table S1. Cases submitted by each stroke service.

	Total strokes	All COVID-19	Cases	Controls	Weeks collected*
Birmingham	105	12	11	93	1-8
Fairfield, Greater Manchester	232	26	5	206	2-17
Glasgow Royal Infirmary	43	3	3	40	1-4, 11-12
Imperial	38	9	9	29	3-4, 7, 11-12
King's, London	161	5	5	156	3-17
Leeds	78	7	6	71	4-10, 12
Newcastle	120	10	8	110	1-8
Princess Royal, Bromley	78	1	1	77	2-5, 7-16
Salford, Greater Manchester	119	6	6	113	2-9
Southampton	64	8	4	56	1-7
St George's, London	55	6	6	49	1, 5, 8
Stoke-on-Trent	97	12	6	85	1-9
UCL Hospitals, London	317	18	16	299	1-17
Total	1507	123	86	1384	

*Patients were included in the study if they were admitted during the 17 weeks following Monday 9 March, the date of the first case (i.e. patient with evidence of COVID-19 at stroke onset). These weeks are labelled consecutively from 1 to 17. Collection finished at the end of Week 17, i.e. week commencing Monday 29 June and ending 5 July. Each stroke service collected patients with dates of admission during the weeks shown.

Table S2 Stroke characteristics in 36 patients with post-stroke COVID-19 (patients who appear to have developed COVID-19 after stroke onset), shown alongside the data from cases and controls from Table 1 for ease of comparison.

	Cases	Controls	Post-stroke COVID-19
All strokes (n)	86	1384	36*
Age (years) (median (IQR))	74.5 (67-84)	73 (61-82)	75 (65.8-80.3)
Males (n (%))	47 (54.7)	731 (52.8)	18 (50)
Ischaemic (n (%))	81 (94.2)	1193 (86.2)	30 (83.3)
Ethnicity (n)	74	1076	35
White (n (%))	53 (71.6)	886 (82.3)	32 (91.4)
Black (n (%))	7 (9.5)	98 (9.1)	2 (5.7)
Asian (n (%))	13 (17.6)	79 (7.3)	1 (2.9)
Mixed / other (n (%))	1 (1.4)	13 (1.2)	0 (0.0)
Disability prior to stroke (n)	84	1369	36
Premorbid mRS (median (IQR))	1 (0-3)	0 (0-2)	1.5 (0-2.3)
Admission stroke severity (n)	74	1336	36
NIHSS (median (IQR))	8 (3.25-17)	5 (2-13)	14.5 (5.8-18)
Respiratory support during admission (n)	86	1370	36
None required (n (%))	41 (47.7)	1236 (90.2)	23 (63.9)
O ₂ by nasal prongs (n (%))	22 (25.6)	66 (4.8)	8 (22.2)
O ₂ by mask (n (%))	15 (17.4)	42 (3.1)	4 (11.1)
Non-invasive ventilation (n (%))	1 (1.2)	6 (0.4)	0 (0)
Intubation and ventilation (n (%))	7 (8.1)	20 (1.5)	1 (2.8)
Outcome measures (n)	86	1384	36
Length of stay in days (median (IQR))	7 (3-17)	3 (2-8)	27.5 (14.8-47.3)
mRS on discharge (median (IQR))	4 (2-5)	3 (1-4)	4 (2-4)
Death during admission (n (%))	17 (19.8)	133 (9.6)	3 (8.3)
Recurrence during admission (n (%))	2 (2.3)	14 (1.0)	0 (0.0)

*One intracerebral haemorrhage in a patient diagnosed with COVID-19 is omitted: the patient could not be classified as a case or as having post-stroke COVID-19 as the date of stroke onset could not be estimated. NIHSS, National Institutes of Health Stroke Scale; mRS, modified Rankin scale.

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