

**10<sup>th</sup> European Stroke Organisation Conference**

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**Abstract N°: 1711****Track: STUDIES****Category: 4.19 COGNITION AND VASCULAR COGNITIVE IMPAIRMENT****Title: PREVALENCE OF PURE CEREBRAL SMALL VESSEL DISEASE IN SUBJECTIVE COGNITIVE DECLINE AND MILD COGNITIVE IMPAIRMENT****Chi Kiu Chan<sup>\*1, 2, 3, 4, 5</sup>, Siu Ting Fu<sup>1, 2, 3, 4, 5</sup>, Yuan Cai<sup>1, 2, 3, 4, 5</sup>, Chirag Nainani<sup>1, 2, 3, 4, 5, 6</sup>, Bonnie Lam<sup>1, 2, 3, 4, 5</sup>, Vincent Ct Mok<sup>1, 2, 3, 4, 5</sup>**

<sup>1</sup>Division of Neurology, Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong, <sup>2</sup>Li Ka Shing Institute of Health Sciences, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong, <sup>3</sup>Margaret K. L. Cheung Research Centre for Management of Parkinsonism, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong, <sup>4</sup>Lau Tat-chuen Research Centre of Brain Degenerative Diseases in Chinese, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong, <sup>5</sup>Gerald Choa Neuroscience Institute, The Chinese University of Hong Kong, Hong Kong, <sup>6</sup>King George V School (KGV), Hong Kong

Background and aims: Alzheimer's disease (AD) and cerebral small vessel disease [CSVD] are the two most common causes of cognitive impairment. However, the prevalence of pure CSVD in the absence of AD pathology among stroke-free people with subjective cognitive decline (SCD)/mild cognitive impairment (MCI) remains uncertain. This study aims to investigate the prevalence of pure CSVD among SCD/MCI.

Methods: 97 stroke-free subjects with SCD (n=28) and MCI (n=69) were recruited. All patients underwent structural MRI and <sup>11</sup>C-Pittsburgh compound B positron emission tomography to assess the burden of CSVD (V+) and amyloid beta deposition (A+), respectively. We defined presence of CSVD (V+) as showing grade 2 or above on the Fazekas Scale and/or with any lacune on MRI.

Results: Among 97 subjects (mean [SD] age, 67.7 [6.0] years; 44 males [45.4%]), 32 subjects (33%) had CSVD (V+). 21 (21.7%) of these subjects had pure CSVD (V+A-) while the remaining 11 (11.3%) had concurrent AD (V+ A+). On the other hand, 30 subjects (30.9%) were A+ and 19 subjects (19.6%) had pure AD (V-A+).

Conclusions: 1 in 5 elderly subjects with SCD/MCI have pure CSVD and this prevalence is similar to that of pure AD among SCD/MCI.

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Table 1. Baseline demographics

Characteristics	Total (n=97)	SCD (n=28)	MCI (n=69)
Age (years)	67.69±6.02	65.96±7.14	68.39±5.41
Male	44(45.4)	13(46.4)	31(44.9)
Education (years)	8.53±4.30	9.61±4.26	8.09±4.27
HK-MoCA	22.04±4.65	26.36±2.88	20.29±4.06
HKLLT z-score in Trial 4	-0.85±0.98	0.19±0.80	-1.28±0.67
NFL	18.11±9.15	17.83±10.74	18.23±8.48
p-tau 181	2.52±1.26	2.17±0.59	2.67±1.44
AD-RAI	0.31±0.36	0.15±0.26	0.38±0.37
Intracranial volume (ml)	1425.12±121.5 9	1455.69±84.2 7	1412.53±132.4 7
WMH volume(ml)	4.48±6.21	2.92±3.63	5.12±6.92
WMH ratio	0.32±0.45	0.20±0.25	0.37±0.50
HV	6.43±0.96	6.97±0.68	6.21±0.98
HF	0.45±0.06	0.48±0.05	0.44±0.06

The data are presented by mean (SD) or n (%)

Table 2. Prevalence of CSVD and Aβ deposition among subjects

Characteristics	Total (n=97)	SCD (n=28)	MCI (n=69)
A-V-	46(47.4)	19(67.9)	27(39.1)
A-V+	21(21.6)	5(17.9)	16(23.2)
A+V-	19(19.6)	4(14.3)	15(21.7)
A+V+	11(11.3)	0(0)	11(15.9)

On behalf of:

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