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Supplementary Material

Estimating the True Prevalence of Diabetes in Patients with Stroke

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Data collection from the 15 studies in the Lau L et al. [9].

- Shimoyama, T.; Kimura, K.; Uemura, J.; Saji, N.; Shibazaki, K. Elevated Glucose Level Adversely Affects Infarct Volume Growth and Neurological Deterioration in Non-Diabetic Stroke Patients, but Not Diabetic Stroke Patients. *Eur. J. Neurol.* **2014**, *21* (3), 402–410. https://doi.org/10.1111/ene.12280.
- Huisa, B. N.; Roy, G.; Kawano, J.; Schrader, R. Glycosylated Hemoglobin for Diagnosis of Prediabetes in Acute Ischemic Stroke Patients. *J. Stroke Cerebrovasc. Dis.* **2013**, *22* (8), e564–e567. https://doi.org/10.1016/j.jstrokecerebrovasdis.2013.06.023.
- Roquer, J.; Giralt-Steinhauer, E.; Cerdà, G.; et al. Glycated Hemoglobin Value Combined with Initial Glucose Levels for Evaluating Mortality Risk in Patients with Ischemic Stroke. *Cerebrovasc. Dis.* **2015**, *40* (5–6), 244–250. https://doi.org/10.1159/000440735.
- Sung, J. Y.; Chen, C. I.; Hsieh, Y. C.; Chen, Y. R.; Wu, H. C.; Chan, L.; Hu, C. J.; Hu, H. H.; Chiou, H. Y.; Chi, N. F. Comparison of Admission Random Glucose, Fasting Glucose, and Glycated Hemoglobin in Predicting the Neurological Outcome of Acute Ischemic Stroke: A Retrospective Study. *PeerJ* **2017**, *5*, e2948. https://doi.org/10.7717/peerj.2948.
- O'Donnell, M. J.; Chin, S. L.; Rangarajan, S.; et al. Global and Regional Effects of Potentially Modifiable Risk Factors Associated with Acute Stroke in 32 Countries (INTERSTROKE): A Case-Control Study. *Lancet* **2016**, *388* (10046), 761–775. https://doi.org/10.1016/S0140-6736(16)30506-2.
- Liu, A.; Carmichael, K. A.; Schallom, M. E.; Riley, M. J.; Klinkenberg, W. D. Detecting and Managing Diabetes Mellitus and Prediabetes in Patients with Acute Stroke. *Diabetes Educ.* **2015**, *41* (5), 592–598. https://doi.org/10.1177/0145721715599267.
- Selvin, E.; Coresh, J.; Shahar, E.; Zhang, L.; Steffes, M.; Sharrett, A. R. Glycaemia (Haemoglobin A1c) and Incident Ischaemic Stroke: The Atherosclerosis Risk in Communities (ARIC) Study. *Lancet Neurol.* **2005**, *4* (12), 821–826. https://doi.org/10.1016/S1474-4422(05)70227-1.
- Yao, M.; Ni, J.; Zhou, L.; Peng, B.; Zhu, Y.; et al. Elevated Fasting Blood Glucose Is Predictive of Poor Outcome in Non-Diabetic Stroke Patients: A Sub-Group Analysis of SMART. *PLoS One* **2016**, *11* (8), e0160674. https://doi.org/10.1371/journal.pone.0160674.
- Wang, Q.; Wang, D.; Liu, M.; et al. Is Diabetes a Predictor of Worse Outcome for Spontaneous Intracerebral Hemorrhage? *Clin. Neurol. Neurosurg.* **2015**, *134*, 67–71. https://doi.org/10.1016/j.clineuro.2015.01.020.
- Tanaka, R.; Ueno, Y.; Miyamoto, N.; et al. Impact of Diabetes and Prediabetes on the Short-Term Prognosis in Patients with Acute Ischemic Stroke. *J. Neurol. Sci.* **2013**, *332* (1–2), 45–50. https://doi.org/10.1016/j.jns.2013.06.010.
- Jia, Q.; Zheng, H.; Zhao, X.; et al. Abnormal Glucose Regulation in Patients with Acute Stroke across China: Prevalence and Baseline Patient Characteristics. *Stroke* **2012**, *43*, 650–657.

- Matz, K.; Keresztes, K.; Tatschl, C.; et al. Disorders of Glucose Metabolism in Acute Stroke Patients: An Underrecognized Problem. *Diabetes Care* **2006**, *29*, 792–797. https://doi.org/10.2337/diacare.29.04.06.dc05-1818.
- Gray, C. S.; Scott, J. F.; French, J. M.; Alberti, K. G.; O'Connell, J. E. Prevalence and Prediction of Unrecognised Diabetes Mellitus and Impaired Glucose Tolerance Following Acute Stroke. *Age Ageing* **2004**, *33* (1), 71–77. https://doi.org/10.1093/ageing/afh026.
- Cardino, M. J. T.; Josol, C. V.; Guillermo, I. M.; et al. Prevalence and Outcomes of Unrecognized Diabetes Mellitus and Prediabetes among Acute Stroke Patients with Admission Hyperglycemia at the Philippine General Hospital: DASH Study. *Philipp. J. Int. Med*. **2011**, 49, 79–87.
- Stead, L. G.; Jain, A.; Bellolio, M. F.; et al. Emergency Department Hyperglycemia as a Predictor of Early Mortality and Worse Functional Outcome After Intracerebral Hemorrhage. *Neurocrit. Care* **2010**, *13* (1), 67–74. https://doi.org/10.1007/s12028-010-9355-0.