**Supplementary Figure 1.** Flow chart of the participants.

Participants excluded for missing laboratory, ID, or PWV data

PWV screening for Lianyungang cohort in 2016 (N=23283)

Stroke cases from Lianyungang CDC in 2013-2018 (N=24303)

Lianyungang PWV Cohort (N=19217)

New Onset Cases (N=660)

Non-Stroke (N=18557)

**Supplementary Table 1**

Baseline characteristics of study participants stratified by fasting glucose concentrations in the less than 65 years age group

|  |
| --- |
|  Age < 65 years |
| Characteristics | GLU < 5.6 mmol/L | 5.5 ≤ GLU < 7.0 mmol/L |  | GLU ≥ 7.0 mmol/L or Diabetes |
| Stroke Cases | Non-stroke | *P*  | Stroke Cases | Non-stroke | *P* | Stroke Cases | Non-stroke | *P* |
| Participants, *n* | 188 | 7506 |  | 74 | 3122 |  | 56 | 1287 |  |
| Male, *n (%)* | 67 (35.6) | 2392(31.9) | 0.310 | 30 (40.5) | 1196 (40.5) | 0.788 | 23 (41.1) | 464 (36.1) | 0.533 |
| Age, y | 59.0 (54.0, 62.0) | 54.0 (50.0, 60.0) | <0.001 | 60.0 (54.0, 63.0) | 57.0 (51.0, 61.0) | <0.001 | 58.5 (53.8, 62.0) | 58.0 (52.0, 62.0) | 0.295 |
| BMI, kg/m2 | 25.5 (22.9, 28.2) | 26.0 (23.7, 28.5) | 0.039 | 26.1 (24.2, 27.9) | 26.5 (24.2, 28.9) | 0.453 | 27.8 (25.6, 29.5) | 26.9 (24.5, 29.5) | 0.285 |
| SBP, mmHg | 148.3 (139.3, 153.8) | 144.3 (135.0, 151.0) | <0.001 | 148.7 (142.7, 154.3) | 146.3 (138.3, 153.0) | 0.044 | 145.7 (136.8, 153.2) | 147.0 (139.3, 153.9) | 0.487 |
| DBP, mmHg | 97.5 (89.7, 106.0) | 93.7 (86.3, 101.3) | <0.001 | 99.2 (89.0, 106.9) | 94.0 (87.0, 102.3) | 0.008 | 93.0 (86.8, 102.8) | 93.7 (85.7, 102.0) | 0.831 |
| baPWV, cm/s | 1676.5 (1509.8, 1924.2) | 1528.0 (1377.0, 1715.0) | <0.001 | 1724.0 (1580.2, 1854.5) | 1588.5 (1432.0, 1797.0) | 0.001 | 1672.0 (1566.2, 1977.8) | 1681.0 (1510.0, 1909.0) | 0.431 |
| Baseline laboratory results |  |  |  |  |  |  |  |  |
| Fasting glucose, mmol/L | 5.0 (4.7, 5.3) | 5.0 (4.7, 5.3) | 0.855 | 6.1 (5.7, 6.5) | 6.0 (5.8, 6.3) | 0.278 | 9.6 (7.8, 11.4) | 8.5 (7.6, 10.7) | 0.097 |
|  Total cholesterol, mmol/L | 4.7 (4.2, 5.6) | 4.6 (4.0, 5.3) | 0.054 | 4.6 (4.1, 5.3) | 4.8 (4.2, 5.6) | 0.173 | 5.1 (4.2, 6.1) | 5.0 (4.3, 5.8) | 0.497 |
|  Triglycerides, mmol/L | 1.5 (1.1, 2.4) | 1.5 (1.0, 2.2) | 0.254 | 1.7 (1.1, 2.5) | 1.6 (1.1, 2.4) | 0.988 | 2.1 (1.5, 3.1) | 2.0 (1.4, 3.1) | 0.226 |
|  Homocysteine, μmol/L | 12.9 (10.5, 6.0) | 12.1 (10.1, 4.7) | 0.020 | 12.6 (10.1, 3.9) | 12.0 (9.9, 14.7) | 0.759 | 12.1 (9.4, 14.4) | 11.7 (9.7, 14.0) | 0.956 |
| Smoking status, *n (%)* |  |  | 0.471 |  |  | 0.796 |  |  | 0.028 |
|  Never | 156 (83.0) | 6156 (82.1) |  | 57 (77.0) | 2503 (80.2) |  | 42 (75.0) | 1046 (81.3) |  |
|  Former | 6 (3.2) | 383 (5.1) |  | 5 (6.8) | 188 (6.0) |  | 1 (1.8) | 83 (6.4) |  |
|  Current | 26 (13.8) | 958 (12.8) |  | 12 (16.2) | 431 (13.8) |  | 13 (23.2) | 158(12.3) |  |
| Alcohol drinking status, *n (%)* |  |  | 0.726 |  |  | 0.275 |  |  | 0.489 |
|  Never | 148 (78.7) | 5898 (78.6) |  | 56 (75.7) | 2248 (72.0) |  | 42 (75.0) | 977 (75.9) |  |
|  Former | 9 (4.8) | 285 (3.8) |  | 5 (6.8) | 128 (4.1) |  | 1 (1.8) | 61 (4.7) |  |
|  Current | 31 (16.5) | 1325 (17.7) |  | 13 (17.6) | 746 (23.9) |  | 13 (23.2) | 249 (19.3) |  |
| Hypertensive *n (%)* | 187 (99.5) | 7227 (96.3) | 0.035 | 74 (100.0) | 3073 (98.4) | 0.544 | 56 (100.0) | 1264 (98.2) | 0.629 |
| History of diseases  |  |  |  |  |  |  |  |  |  |
|  Hypertension | 156 (83.0) | 5947 (79.2) | 0.245 | 69 (93.2) | 2530 (81.0) | 0.012 | 49 (87.5) | 1075 (83.5) | 0.547 |
| Diabetes | 3 (1.6) | 139 (1.9) | 1.000 | 6 (8.1) | 177 (5.7) | 0.523 | 22 (39.3) | 491 (38.2) | 0.976 |
|  Hyperlipidemia | 17 (9.0) | 719 (9.6) | 0.903 | 9 (12.2) | 367 (11.8) | 1.000 | 13 (22.2) | 257 (20.0) | 0.672 |
| History of drug treatments treatments  |  |  |  |  |  |  |  |  |  |
| Antihypertensive | 106 (56.4) | 3398 (45.3) | 0.003 | 48 (64.9) | 1535 (49.2) | 0.011 | 33 (58.9) | 681 (52.9) | 0.456 |

BMI indicates body mass index; SBP, systolic blood pressure; DBP, diastolic blood pressure; baPWV, brachial ankle pulse wave velocity; Data are presented as median (IQR) or n (%), unless otherwise indicated.

**Supplementary Table 2**

Baseline characteristics of study participants stratified by age group1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Characteristics | Overall | Age<65 years | Age>65 years | *P* |
| Participants, *n* | 19217 | 12381 | 6836 |  |
| Male, *n (%)* |  6959 (36.2)  |  4236 (34.2)  |  2723 (39.8)  | <0.001 |
| Age, y |  61.0 (54.0, 67.0) |  56.0 (50.0, 61.0) |  70.0 (67.0, 74.0) | <0.001 |
| BMI, kg/m2 |  25.8 (23.5, 28.4) |  26.2 (23.9, 28.7) |  25.1 (22.7, 27.7) | <0.001 |
| SBP, mmHg |  146.0 (137.7, 152.3) |  145.3 (136.7, 152.0) |  146.7 (140.3, 152.7) | <0.001 |
| DBP, mmHg |  92.7 (84.7, 100.7) |  93.7 (86.3, 101.7) |  90.0 (81.7, 98.0) | <0.001 |
| baPWV, cm/s | 1657.0 (1462.0, 1902.0) | 1563.0 (1406.0, 1763.0) | 1852.0 (1645.0,2111.0) | <0.001 |
| Baseline laboratory results |  |  |  |  |
|  Fasting glucose, mmol/L |  5.4 (4.9, 6.0) |  5.3 (4.9, 5.9) |  5.4 (5.0, 6.1) | <0.001 |
|  Total cholesterol, mmol/L |  4.7 (4.1, 5.4) |  4.7 (4.1, 5.4) |  4.8 (4.1, 5.5) | 0.002 |
|  Triglycerides, mmol/L |  1.5 (1.1, 2.2) |  1.6 (1.1, 2.3) |  1.5 (1.0, 2.1) | <0.001 |
|  Homocysteine, μmol/L |  12.7 (10.4, 15.5) |  12.1 (10.0, 14.6) |  13.8 (11.4, 16.8) | <0.001 |
| Smoking status |   |   |   | <0.001 |
|  Never |  15138 (78.8)  |  10079 (81.4)  |  5059 (74.0)  |  |
|  Former |  1352 (7.0)  |  678 (5.5)  |  674 (9.9)  |  |
|  Current |  2727 (14.2)  |  1624 (13.1)  |  1103 (16.1)  |  |
| Alcohol drinking status |   |   |   | <0.001 |
|  Never |  14598 (76.0)  |  9465 (76.4)  |  5133 (75.1)  |  |
|  Former |  919 (4.8)  |  495 (4.0)  |  424 (6.2)  |  |
|  Current |  3700 (19.3)  |  2421 (19.6)  |  1279 (18.7)  |  |
| Hypertensive |  18718 (97.4)  |  12023 (97.1)  |  6695 (97.9)  | 0.001 |
| History of diseases |  |  |  |  |
|  Hypertension |  15634 (81.4)  |  9940 (80.3)  |  5694 (83.3)  | <0.001 |
| Diabetes |  1413 (7.4)  |  838 (6.8)  |  575 (8.4)  | <0.001 |
|  Hyperlipidemia |  2008 (10.4)  |  1396 (11.3)  |  612 (9.0)  | <0.001 |
| History of drug treatments |  |  |  |  |
| Antihypertensive |  9716 (50.6)  |  5853(47.4)  |  3843 (56.2)  | <0.001 |
| Incident stroke cases |  660 (3.4)  |  320 (2.6)  |  340 5.0)  | <0.001 |

BMI indicates body mass index; SBP, systolic blood pressure; DBP, diastolic blood pressure; baPWV, brachial ankle pulse wave velocity; Data are presented as median (IQR)1 or n (%), unless otherwise indicated.

**Supplementary Table 3**

Baseline characteristics of stroke cases stratified by age group1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Characteristics | Overall | Age<65 years | Age>65 years | *P* |
| Participants, *n* | 660 | 320 | 340 |  |
| Male, *n (%)* |  269 (40.8)  |  121 (37.8)  |  148 (43.5)  | 0.157 |
| Age, y |  65.0 (60.0, 72.0) |  59.0 (54.0, 62.0) |  71.0 (67.0, 76.0) | <0.001 |
| BMI, kg/m2 |  25.6 (3.8) |  26.1 (3.5) |  25.1 (3.9) | 0.001 |
| SBP, mmHg |  147.7 (139.4, 153.7) |  148.3 (139.3, 154.0) |  147.3 (139.7, 153.7) | 0.659 |
| DBP, mmHg |  93.7 (85.2, 103.0) |  97.0 (88.7, 105.7) |  91.0 (82.3, 99.3) | <0.001 |
| baPWV, cm/s | 1786.5 (1589.5, 2043.5) | 1701.0 (1523.2, 1921.8) | 1893.0 (1666.2, 2146.0) | <0.001 |
| Baseline laboratory results |  |  |  |  |
|  Fasting glucose, mmol/L |  5.4 (4.9, 6.3) |  5.4 (4.9, 6.3) |  5.4 (4.9, 6.3) | 0.858 |
|  Total cholesterol, mmol/L |  4.7 (4.1, 5.5) |  4.7 (4.2, 5.6) |  4.6 (4.1, 5.3) | 0.149 |
|  Triglycerides, mmol/L |  1.5 (1.1, 2.3) |  1.7 (1.2, 2.5) |  1.4 (1.0, 2.1) | <0.001 |
|  Homocysteine, μmol/L |  13.3 (11.1, 16.6) |  12.6 (10.2, 14.8) |  14.5 (12.1, 17.7) | <0.001 |
| Smoking status |   |   |   | 0.006 |
|  Never |  503 (76.2)  |  257 (80.3)  |  246 (72.4)  |  |
|  Former |  45 (6.8)  |  12 (3.8)  |  33 (9.7)  |  |
|  Current |  112 (17.0)  |  51 (15.9)  |  61 (17.9)  |  |
| Alcohol drinking status |   |   |   | 0.34 |
|  Never |  501 (75.9)  |  248 (77.5)  |  253 (74.4)  |  |
|  Former |  40 (6.1)  |  15 (4.7)  |  25 (7.4)  |  |
|  Current |  119 (18.0)  |  57 (17.8)  |  62 (18.2)  |  |
| Hypertensive |  649 (98.3)  |  319 (99.7)  |  330 (97.1)  | 0.02 |
| History of diseases |  |  |  |  |
|  Hypertension |  570 (86.4)  |  275 (85.9)  |  295 (86.8)  | 0.845 |
| Diabetes |  62 (9.4)  |  31 (9.7)  |  31 (9.1)  | 0.907 |
|  Hyperlipidemia |  76 (11.5)  |  39 (12.2)  |  37 (10.9)  | 0.687 |
| History of drug treatments |  |  |  |  |
| Antihypertensive |  391 (59.2)  |  187 (58.4)  |  204 (60.0)  | 0.742 |

BMI indicates body mass index; SBP, systolic blood pressure; DBP, diastolic blood pressure; baPWV, brachial ankle pulse wave velocity; Data are presented as median (IQR)1 or n (%), unless otherwise indicated.