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| **Supplemental Material 3A. Association between computed tomography-based abdominal adiposity indexes and NAFLD (Framingham Steatosis Index, FSI)** |
| **Abdominal adiposity index** | **Men (n=1366)** |  | **Women (n=2480)** |
| **Range** | **n of people** | **n (%) of NAFLD** | **OR (95% CI)\*** |  | **Range** | **n of people** | **n (%) of NAFLD** | **OR (95% CI)\*** |
| **VFA** |  |  |  |  |  |  |  |  |  |
| **Q1** | < 82.3 | 341 | 17 (5.0) | 1.00 | 　 | < 59.6 | 620 | 3 (0.5) | 1.00 |
| **Q2** | 82.3-111.9 | 342 | 62 (18.1) | 1.94 (1.02-3.70) | 　 | 59.6-83.4 | 620 | 15 (2.4) | 1.37 (0.37-5.01) |
| **Q3** | 111.9-146.5 | 340 | 143 (42.1) | 3.99 (2.08-7.67) | 　 | 83.4-110.1 | 620 | 56 (9.0) | 3.09 (0.90-10.60) |
| **Q4** | ≥146.5 | 343 | 235 (68.5) | 6.54 (3.15-13.55) | 　 | ≥110.1 | 620  | 233 (37.6) | 6.47 (1.85-22.58) |
| *p for trend* | 　 |  |  | <0.001 | 　 | 　 | 　 | 　 | <0.001 |
| **continuous (per 10cm2)** | 　 |  | 　 | 1.18 (1.11-1.24) | 　 | 　 | 　 | 　 | 1.14 (1.08-1.21) |
| **SFA**  | 　 |  | 　 | 　 | 　 | 　 | 　 | 　 | 　 |
| **Q1** | < 105.2 | 341 | 38 (11.1) | 1.00 | 　 | <131.4 | 620 | 19 (3.1) | 1.00 |
| **Q2** | 105.2-136.0 | 342 | 74 (21.6) | 0.66 (0.38-1.13) | 　 | 131.4-164.4 | 620 | 51 (8.2) | 1.02 (0.51-2.03) |
| **Q3** | 136.0-175.0 | 341 | 139 (40.8) | 0.72 (0.41-1.28) | 　 | 164.4-204.0 | 620 | 77 (12.4) | 0.59 (0.29-1.18) |
| **Q4** | ≥175.0 | 342 | 206 (60.2) | 0.47 (0.24-0.93) | 　 | ≥204.0 | 620  | 160 (25.8) | 0.30 (0.14-0.65) |
| *p for trend* | 　 |  |  | 0.059  | 　 | 　 | 　 | 　 | <0.001 |
| **continuous (per 10cm2)** | 　 |  | 　 | 0.94 (0.89-0.99) | 　 | 　 | 　 | 　 | 0.91 (0.87-0.96) |
| **VSR** | 　 |  | 　 | 　 | 　 | 　 | 　 | 　 | 　 |
| **Q1** | < 0.61 | 341 | 91 (26.7) | 1.00 | 　 | < 0.39 | 620 | 30 (4.8) | 1.00 |
| **Q2** | 0.61-0.80 | 342 | 107 (31.3) | 2.12 (1.29-3.48) | 　 | 0.39-0.49 | 620 | 52 (8.4) | 1.51 (0.78-2.92) |
| **Q3** | 0.80-1.04 | 341 | 116 (34.0) | 3.02 (1.83-4.99) | 　 | 0.49-0.65 | 620 | 67 (10.8) | 2.37 (1.24-4.54) |
| **Q4** | ≥1.04 | 342 | 143 (41.8) | 4.26 (2.50-7.27) | 　 | ≥0.65 | 620  | 158 (25.5) | 5.00 (2.70-9.27) |
| *p for trend* | 　 |  |  | <0.001 | 　 | 　 | 　 | 　 | <0.001 |
| **continuous (per 0.1-SD)** | 　 |  | 　 | 1.05 (1.03-1.07) | 　 | 　 | 　 | 　 | 1.04 (1.02-1.05) |
| NAFLD, non-alcoholic fatty liver disease; OR, odds ratio; CI, confidence interval; VFA, visceral fat area; SFA, subcutaneous fat area; VSR, visceral-to-subcutaneous fat ratio; SD, standard deviation; BMI, body mass index; WC, waist circumference; ALT, alanine aminotransferase; AST, aspartate aminotransferase.Framingham Steatosis Index = 1 / (1 + exp (-x)) × 100, x -7.981 + 0.011 × age (years) – 0.146 × sex (female =1, male = 0) + 0.173 × BMI (kg/m2) + 0.007 × triglycerides (mg/dL) + 0.593 × hypertension (yes = 1, no = 0) + 0.789 × diabetes (yes = 1, no = 0) + 1.1 × ALT:AST ratio ≥ 1.33 (yes=1, no=0). |
| \* Adjusted for age, drinking status, smoking status, hypertension, diabetes mellitus, body mass index, and waist circumference. |
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| **Supplemental Material 3B. Comparison of discriminatory power of abdominal adiposity indexes in the detection of NAFLD (Framingham Steatosis Index, FSI)** |
| **Abdominal adiposity index** | **AUC** |  | **Improved AUC** |  | **IDI** |  | **Category-based NRI** |  | **Category-free NRI** |
| **Index** |  | **Index** | ***p*-value** |  | **Index** | ***p*-value** |  | **Index** | ***p*-value** |  | **Index** | ***p*-value** |
| **Men** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Base model\*** | 0.840 |  |  |  |  |  |  |  |  |  |  |  |  |
| **WC** | 0.851 |  | *Reference* |  |  | *Reference* |  | 　 | *Reference* | 　 | 　 | *Reference* | 　 |
| **WC + VFA** | **0.868** | 　 | **0.017** | <0.001 | 　 | **0.037** | <0.001 | 　 | **0.119** | <0.001 | 　 | 0.397 | <0.001 |
| **WC + SFA** | 0.854 | 　 | 0.003 | 0.122 | 　 | 0.007 | 0.006 | 　 | 0.026 | 0.119 | 　 | 0.223 | <0.001 |
| **WC + VSR** | 0.865 | 　 | 0.014 | <0.001 | 　 | 0.031 | <0.001 | 　 | 0.066 | 0.005 | 　 | **0.399** | <0.001 |
| **Women** | 　 | 　 | 　 | 　 | 　 | 　 | 　 | 　 | 　 | 　 | 　 | 　 | 　 |
| **Base model\*** | 0.882 |  |  |  |  |  |  |  |  |  |  |  |  |
| **WC** | 0.885 | 　 | *Reference* | 　 | 　 | *Reference* | 　 | 　 | *Reference* | 　 | 　 | *Reference* | 　 |
| **WC + VFA** | 0.903 | 　 | 0.018 | <0.001 | 　 | 0.033 | <0.001 | 　 | **0.083** | 0.002 | 　 | 0.465 | <0.001 |
| **WC + SFA** | 0.894 | 　 | 0.009 | 0.002 | 　 | 0.027 | <0.001 | 　 | 0.060 | 0.012 | 　 | 0.430 | <0.001 |
| **WC + VSR** | **0.903** | 　 | **0.018** | <0.001 | 　 | **0.038** | <0.001 | 　 | 0.074 | 0.006 | 　 | **0.630** | <0.001 |
| NAFLD, non-alcoholic fatty liver disease; AUC, area under the receiver operating characteristic curve; IDI, integrated discrimination improvement; NRI, net reclassification improvement; WC, waist circumference; VFA, visceral fat area; SFA, subcutaneous fat area; VSR, visceral-to-subcutaneous fat ratio; BMI, body mass index; ALT, alanine aminotransferase; AST, aspartate aminotransferase.Framingham Steatosis Index = 1 / (1 + exp (-x)) × 100, x -7.981 + 0.011 × age (years) – 0.146 × sex (female =1, male = 0) + 0.173 × BMI (kg/m2) + 0.007 × triglycerides (mg/dL) + 0.593 × hypertension (yes = 1, no = 0) + 0.789 × diabetes (yes = 1, no = 0) + 1.1 × ALT:AST ratio ≥ 1.33 (yes=1, no=0).For the category-based NRI, risk cut-offs of 20% and 50% were used. |
| \*The base model is adjusted for age and body mass index. |
| \*\*The WC-based model is adjusted for age, body mass index, and WC. |