**Supplementary Table 5. Adjusted hazard ratios of incident severe liver disease and cardio-cerebrovascular disease in relation to different classification of fatty liver stratified by gender**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Outcomes** | **No. of total** | **The median follow-up time [Years (95%CI)]** | **PYs** | **No. of  events** | **Incidence rate  per 100 000 PYs** | **HR (95% CI)** | ***P*** | **aHRa (95% CI)** | ***P*** | ***Pb*** |
| **Cirrhosis** |  |  |  |  |  |  |  |  |  |  |
| **Maled** |  |  |  |  |  |  |  |  |  | 0.042\* |
| Normal | 25 389 | 5.21 (5.21 - 5.22) | 135846.0 | 55 | 40.49 | Ref | Ref | Ref | Ref |  |
| NAFLD | 15 975 | 5.19 (5.18 - 5.19) | 84960.9 | 18 | 21.19 | 0.55 (0.32-0.96) | 0.036\* | 0.33 (0.11-0.96) | 0.042\* |  |
| MAFLD | 14 801 | 5.19 (5.19 - 5.20) | 78819.0 | 22 | 27.91 | 0.67 (0.39-1.14) | 0.136 | 0.46 (0.16-1.28) | 0.137 |  |
| Non-MAFLD-NAFLD | 1 383 | 5.11 (5.06 - 5.15) | 7251.1 | 2 | 27.58 | 0.76 (0.19-3.14) | 0.707 | 0.68 (0.05- 10.17) | 0.779 |  |
| **Femalec** |  |  |  |  |  |  |  |  |  | 0.831 |
| Normal | 23 401 | 5.25 (5.25 - 5.26) | 125668.7 | 26 | 20.69 | Ref | Ref | Ref | Ref |  |
| NAFLD | 6 860 | 5.23 (5.20 - 5.25) | 36696.2 | 17 | 46.33 | 2.47 (1.33-4.59) | 0.004\*\* | 1.60 (0.84-3.02) | 0.151 |  |
| MAFLD | 5 706 | 5.25 (5.23 - 5.26) | 30595.7 | 15 | 49.03 | 2.61 (1.37-4.98) | 0.004\*\* | 1.63 (0.84-3.17) | 0.147 |  |
| Non-MAFLD-NAFLD | 1 191 | 5.11 (5.07 - 5.16) | 6294.2 | 3 | 47.66 | 2.53 (0.76-8.39) | 0.130 | 1.97 (0.59-6.57) | 0.269 |  |
| **HCC** |  |  |  |  |  |  |  |  |  |  |
| **Malec** |  |  |  |  |  |  |  |  |  | 0.907 |
| Normal | 25 389 | 5.21 (5.21 - 5.22) | 135928.1 | 19 | 13.98 | Ref | Ref | Ref | Ref |  |
| NAFLD | 15 975 | 5.19 (5.18 - 5.19) | 84978.8 | 10 | 11.77 | 0.84 (0.39-1.81) | 0.658 | 0.93 (0.43-2.01) | 0.859 |  |
| MAFLD | 14 801 | 5.19 (5.19 - 5.20) | 78838.7 | 10 | 12.68 | 0.91 (0.42-1.95) | 0.804 | 1.00 (0.46-2.17) | 0.991 |  |
| Non-MAFLD-NAFLD | 1 383 | 5.11 (5.06 - 5.15) | 7255.7 | 1 | 13.78 | 0.98 (0.13-7.30) | 0.982 | 1.13 (0.15-8.47) | 0.904 |  |
| **Femalec** |  |  |  |  |  |  |  |  |  | 0.716 |
| Normal | 23 401 | 5.25 (5.25 - 5.26) | 125716.6 | 5 | 3.98 | Ref | Ref | Ref | Ref |  |
| NAFLD | 6 860 | 5.23 (5.20 - 5.25) | 36710.2 | 4 | 10.90 | 2.74 (0.74-10.22) | 0.132 | 2.11 (0.54-8.26) | 0.286 |  |
| MAFLD | 5 706 | 5.25 (5.23 - 5.26) | 30615.5 | 2 | 6.53 | 1.65 (0.32-8.49) | 0.551 | 1.24 (0.23-6.69) | 0.805 |  |
| Non-MAFLD-NAFLD | 1 191 | 5.11 (5.07 - 5.15) | 6292.2 | 2 | 31.79 | 7.98 (1.55-41.13) | 0.013\* | 6.85 (1.31-35.82) | 0.023\* |  |
| **Liver failure** |  |  |  |  |  |  |  |  |  |  |
| **Malec** |  |  |  |  |  |  |  |  |  | 0.195 |
| Normal | 25 389 | 5.21 (5.21 - 5.22) | 135491.6 | 233 | 171.97 | Ref | Ref | Ref | Ref |  |
| NAFLD | 15 975 | 5.19 (5.18 - 5.19) | 84480.4 | 246 | 291.19 | 1.70 (1.42-2.04) | <0.001\*\*\* | 1.66 (1.38-1.98) | <0.001\*\*\* |  |
| MAFLD | 14 801 | 5.19 (5.19 - 5.20) | 78395.2 | 225 | 287.01 | 1.68 (1.40-2.01) | <0.001\*\*\* | 1.63 (1.35-1.95) | <0.001\*\*\* |  |
| Non-MAFLD-NAFLD | 1 383 | 5.11 (5.06 - 5.16) | 7189.4 | 27 | 375.55 | 2.21 (1.49-3.30) | <0.001\*\*\* | 2.22 (1.49-3.31) | <0.001\*\*\* |  |
| **Femalec** |  |  |  |  |  |  |  |  |  | 0.775 |
| Normal | 23 401 | 5.25 (5.25 - 5.26) | 125331.9 | 185 | 147.61 | Ref | Ref | Ref | Ref |  |
| NAFLD | 6 860 | 5.23 (5.20 - 5.25) | 36484.3 | 117 | 320.69 | 2.18 (1.73-2.75) | <0.001\*\*\* | 1.47 (1.16-1.87) | 0.001\*\* |  |
| MAFLD | 5 706 | 5.25 (5.23 - 5.26) | 30415.0 | 105 | 345.22 | 2.34 (1.84-2.98) | <0.001\*\*\* | 1.54 (1.20-1.97) | 0.001\*\* |  |
| Non-MAFLD-NAFLD | 1 191 | 5.11 (5.08 - 5.16) | 6257.3 | 18 | 287.66 | 1.97 (1.21-3.19) | 0.006\*\* | 1.57 (0.97-2.55) | 0.069 |  |
| **Coronary heart disease** |  |  |  |  |  |  |  |  |  |  |
| **Malec** |  |  |  |  |  |  |  |  |  | 0.059 |
| Normal | 25 389 | 5.21 (5.20 - 5.22) | 135073.9 | 369 | 273.18 | Ref | Ref | Ref | Ref |  |
| NAFLD | 15 975 | 5.19 (5.18 - 5.19) | 84220.5 | 321 | 381.14 | 1.40 (1.20-1.62) | <0.001\*\*\* | 1.47 (1.27-1.71) | <0.001\*\*\* |  |
| MAFLD | 14 801 | 5.19 (5.19 - 5.20) | 78117.4 | 305 | 390.44 | 1.43 (1.23-1.66) | <0.001\*\*\* | 1.51 (1.29-1.76) | <0.001\*\*\* |  |
| Non-MAFLD-NAFLD | 1 383 | 5.12 (5.06 - 5.16) | 7212.9 | 19 | 263.42 | 0.96 (0.61-1.53) | 0.877 | 1.05 (0.66-1.67) | 0.828 |  |
| **Femalec** |  |  |  |  |  |  |  |  |  | 0.842 |
| Normal | 23 401 | 5.25 (5.25 - 5.26) | 125439.7 | 121 | 96.46 | Ref | Ref | Ref | Ref |  |
| NAFLD | 6 860 | 5.23 (5.20 - 5.25) | 36412.2 | 136 | 373.50 | 3.87 (3.03-4.95) | <0.001\*\*\* | 1.89 (1.48-2.42) | <0.001\*\*\* |  |
| MAFLD | 5 706 | 5.25 (5.23 - 5.26) | 30328.0 | 127 | 418.76 | 4.34 (3.38-5.57) | <0.001\*\*\* | 2.02 (1.57-2.59) | <0.001\*\*\* |  |
| Non-MAFLD-NAFLD | 1 191 | 5.11 (5.08 - 5.16) | 6277.1 | 11 | 175.24 | 1.82 (0.98-3.38) | 0.057 | 1.20 (0.65-2.22) | 0.570 |  |
| **Stroke** |  |  |  |  |  |  |  |  |  |  |
| **Malec** |  |  |  |  |  |  |  |  |  | 0.824 |
| Normal | 25 389 | 5.21 (5.21 - 5.22) | 134737.9 | 524 | 388.90 | Ref | Ref | Ref | Ref |  |
| NAFLD | 15 975 | 5.19 (5.18 - 5.19) | 84250.9 | 342 | 405.93 | 1.04 (0.91-1.20) | 0.529 | 1.16 (1.01-1.33) | 0.039\* |  |
| MAFLD | 14 801 | 5.19 (5.19 - 5.20) | 78149.2 | 324 | 414.59 | 1.07 (0.93-1.23) | 0.361 | 1.18 (1.03-1.36) | 0.020\* |  |
| Non-MAFLD-NAFLD | 1 383 | 5.11 (5.06 - 5.15) | 7219.8 | 19 | 263.17 | 0.68 (0.43-1.07) | 0.097 | 0.77 (0.49-1.22) | 0.264 |  |
| **Femalec** |  |  |  |  |  |  |  |  |  | 0.129 |
| Normal | 23 401 | 5.25 (5.25 - 5.26) | 125206.8 | 224 | 178.90 | Ref | Ref | Ref | Ref |  |
| NAFLD | 6 860 | 5.23 (5.20 - 5.25) | 36320.6 | 180 | 495.59 | 2.78 (2.29-3.38) | <0.001\*\*\* | 1.34 (1.10-1.63) | 0.004\*\* |  |
| MAFLD | 5 706 | 5.25 (5.23 - 5.26) | 30251.0 | 164 | 542.13 | 3.04 (2.49-3.72) | <0.001\*\*\* | 1.39 (1.13-1.70) | 0.001\*\* |  |
| Non-MAFLD-NAFLD | 1 191 | 5.11 (5.08 - 5.16) | 6260.7 | 19 | 303.48 | 1.71 (1.07-2.73) | 0.025\* | 1.12 (0.70-1.79) | 0.637 |  |
| **Heart failure** |  |  |  |  |  |  |  |  |  |  |
| **Malec** |  |  |  |  |  |  |  |  |  | 0.808 |
| Normal | 25 389 | 5.21 (5.21 - 5.22) | 135508.6 | 201 | 148.33 | Ref | Ref | Ref | Ref |  |
| NAFLD | 15 975 | 5.19 (5.18 - 5.19) | 84615.9 | 160 | 189.09 | 1.27 (1.04-1.57) | 0.022\* | 1.34 (1.09-1.65) | 0.006\*\* |  |
| MAFLD | 14 801 | 5.19 (5.19 - 5.20) | 78492.5 | 153 | 194.92 | 1.31 (1.06-1.62) | 0.011\* | 1.38 (1.12-1.71) | 0.003\*\* |  |
| Non-MAFLD-NAFLD | 1 383 | 5.11 (5.06 - 5.15) | 7238.2 | 9 | 124.34 | 0.84 (0.43-1.64) | 0.606 | 0.91 (0.47-1.78) | 0.789 |  |
| **Femalec** |  |  |  |  |  |  |  |  |  | 0.864 |
| Normal | 23 401 | 5.25 (5.25 - 5.26) | 125508.0 | 96 | 76.49 | Ref | Ref | Ref | Ref |  |
| NAFLD | 6 860 | 5.23 (5.20 - 5.25) | 36588.0 | 63 | 172.19 | 2.25 (1.64-3.09) | <0.001\*\*\* | 1.11 (0.81-1.53) | 0.506 |  |
| MAFLD | 5 706 | 5.25 (5.23 - 5.26) | 30500.0 | 57 | 186.89 | 2.44 (1.76-3.39) | <0.001\*\*\* | 1.15 (0.83-1.60) | 0.408 |  |
| Non-MAFLD-NAFLD | 1 191 | 5.11 (5.08 - 5.15) | 6285.6 | 6 | 95.46 | 1.25 (0.55-2.86) | 0.591 | 0.83 (0.37-1.90) | 0.665 |  |
| **Cardiomyopathy** |  |  |  |  |  |  |  |  |  |  |
| **Malec** |  |  |  |  |  |  |  |  |  | 0.199 |
| Normal | 25 389 | 5.21 (5.21 - 5.22) | 135942.0 | 12 | 8.83 | Ref | Ref | Ref | Ref |  |
| NAFLD | 15 975 | 5.19 (5.18 - 5.19) | 84976.1 | 16 | 18.83 | 2.13 (1.01-4.50) | 0.048\* | 2.08 (0.98-4.40) | 0.055 |  |
| MAFLD | 14 801 | 5.19 (5.19 - 5.20) | 78836.4 | 16 | 20.30 | 2.29 (1.09-4.85) | 0.030\* | 2.24 (1.06-4.73) | 0.035\* |  |
| Non-MAFLD-NAFLD | 1 383 | 5.11 (5.06 - 5.15) | 7258.9 | 0 | 0.00 | (-) | (-) | (-) | (-) |  |
| **Femalec** |  |  |  |  |  |  |  |  |  | 0.670 |
| Normal | 23 401 | 5.25 (5.25 - 5.26) | 125717.7 | 7 | 5.57 | Ref | Ref | Ref | Ref |  |
| NAFLD | 6 860 | 5.23 (5.20 - 5.25) | 36712.7 | 5 | 13.62 | 2.46 (0.78-7.77) | 0.123 | 1.38 (0.43-4.42) | 0.590 |  |
| MAFLD | 5 706 | 5.25 (5.23 - 5.26) | 30616.2 | 3 | 9.80 | 1.77 (0.46-6.84) | 0.408 | 0.95 (0.24-3.73) | 0.939 |  |
| Non-MAFLD-NAFLD | 1 191 | 5.11 (5.08 - 5.16) | 6294.0 | 2 | 31.78 | 5.82 (1.21-28.02) | 0.028\* | 4.12 (0.85-19.92) | 0.078 |  |

a Models were adjusted for age at baseline (continuous). b Tests of proportional hazards assumption for adjusted models. c Survival analysis was implemented by Cox proportional hazards models. d Survival analysis was implemented by AFT model. \**p*< 0.05, \*\**p*< 0.01, \*\*\**p*< 0.001. aHR, adjusted hazard ratio; HCC, hepatocellular carcinoma; HR, hazard ratio; MAFLD, metabolic associated fatty liver disease; NAFLD, non-alcoholic fatty liver disease; PYs, person-years.