Preliminary analysis of estimated glomerular filtration rate using the PROMISE cohort

WINDY WANG

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# Subject Characterization

TABLE 1: Subject characteristic according to estimated GFR categories at baseline.

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| --- | --- | --- | --- | --- | --- |
|  | | Normal (n=574) | Mild (n=112) | Moderate (n=2) | Hyperfiltration (n=51) |
| Age (years) \*\*\* | | 49.5 (9.1)a | 56.3 (10.3) | 66.5 (12.0) | 38.7 (7.8)a |
| Ethnicity (%) \*\* | European | 376 (65.5%) | 82 (73.2%) | 2 (100%) | 21 (41.2%) |
| Latino/a | 88 (15.3%) | 16 (14.3%) | - | 9 (17.6%) |
| Other | 65 (11.3%) | 7 (6.2%) | - | 16 (31.4%) |
| South Asian | 45 (7.8%) | 7 (6.2%) | - | 5 (9.8%) |
| Sex (%) \*\*\* | Female | 421 (73.3%) | 31 (27.7%) | 1 (50%) | 50 (98%) |
| Male | 153 (26.7%) | 81 (72.3%) | 1 (50%) | 1 (2%) |
| BMI (kg/m2) | | 31.2 (6.3) | 30.3 (5.5) | 29.4 (3.0) | 31.6 (7.2) |
| Waist circumference(cm) | | 98.6 (15.5) | 102.3 (13.6) | 105.3 (24.4) | 96.5 (17.3) |
| Urinary VDBP (ng/mL) \*\*\* | | 80.4 (92.7)a | 75.5 (75)b | 1106.5 (1437.5)abc | 108.9 (105.8)c |
| Microalbumin:Creatinine \*\*\* | | 1.2 (3.6)a | 1.0 (2.8)b | 50.5 (69.9)abc | 1.7 (3.6)c |
| Urinary creatinine (mmol/L) \*\*\* | | 11.4 (6.2)a | 14.2 (6.5)ab | 10.3 (1.3) | 10.4 (6.6)b |
| Urinary albumin (mg/L) \*\*\* | | 10.2 (17.9)a | 10.0 (10.8)b | 870.0 (1216.2)abc | 11.0 (12.7)c |
| Serum creatinine (μmol/L) \*\*\* | | 67.8 (9.5)a | 90.3 (7.5)a | 112.5 (10.6)a | 51.1 (8.5)a |
| Serum 25(OH)D (nmol/L) \*\*\* | | 54.7 (23.1)a | 63.6 (19.4)ab | 41.8 (45.0) | 46.6 (24.1)b |
| Diastolic blood pressure (mmHg) \* | | 80.2 (10.2) | 80.9 (9.6) | 66.5 (4.2) | 77.1 (12.5) |
| Mean arterial pressure (mmHg) \*\* | | 95.5 (11.3)a | 97.4 (10.4)b | 88.2 (0.4) | 91.0 (13.6)ab |
| Systolic blood pressure (mmHg) \*\*\* | | 125.9 (15.9)ab | 130.4 (14.2)ac | 131.8 (9.5) | 118.6 (17.4)bc |
| Parathyroid Hormone (pmol/L) \*\* | | 4.6 (1.7)a | 4.6 (1.5)b | 8.7 (4.6)abc | 4.6 (1.8)c |
| Serum ALT (U/L) \*\* | | 31.3 (16.6)a | 37.3 (20.5)ab | 33.0 (17.0) | 27.3 (15.5)b |
| Blood glucose (mmol/L) | Fasting \* | 5.1 (0.9)a | 5.3 (1.1)a | 4.7 (1.6) | 5.0 (0.8) |
| 2h OGTT | 6.6 (2.9) | 6.6 (3.1) | 5.5 (1.4) | 6.4 (2.7) |
| Diabetic Status | Diabetes | 69 (12%) | 16 (14.3%) | - | 5 (9.8%) |
| Normal | 479 (83.4%) | 86 (76.8%) | 2 (100%) | 44 (86.3%) |
| Prediabetes | 26 (4.5%) | 10 (8.9%) | - | 2 (3.9%) |

Continuous values are reported as mean (standard deviation) and discrete variables are reported as n (proportion). Significance for continuous variables were tested using analysis of variance (ANOVA) with Tukey’s HSD for pairwise comparisons. Significance for discrete variables were examined using chi-squared test of independence. Hemolysed samples were removed from analysis (n=2). \**p* < 0.05, \*\**p* < 0.01, \*\**p* < 0.001.

TABLE 2: Subject characteristic according to estimated GFR categories across all visits.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Row | Normal | Mild | Moderate | Hyperfiltration |
| Age (years) | 52.4 (9.3) | 60.3 (10.3) | 66.6 (7.7) | 40.5 (7.9) |
| Ethnicity |  |  |  |  |
| - European | 994 (69.4%) | 258 (76.8%) | 11 (68.8%) | 39 (41.5%) |
| - Latino/a | 179 (12.5%) | 37 (11%) | 1 (6.2%) | 13 (13.8%) |
| - Other | 145 (10.1%) | 22 (6.5%) | 3 (18.8%) | 31 (33%) |
| - South Asian | 114 (8%) | 19 (5.7%) | 1 (6.2%) | 11 (11.7%) |
| Sex |  |  |  |  |
| - Female | 1085 (75.8%) | 125 (37.2%) | 7 (43.8%) | 91 (96.8%) |
| - Male | 347 (24.2%) | 211 (62.8%) | 9 (56.2%) | 3 (3.2%) |
| BMI | 31.2 (6.5) | 30.4 (5.1) | 29.9 (4.6) | 32.5 (7.4) |
| Waist Circumference (cm) | 99.2 (15.6) | 102.5 (13.1) | 104.1 (12.3) | 98.4 (17.4) |
| Estimated GFR (ml/min/1.73m^2) | 105.4 (8.6) | 80.7 (6.9) | 55.1 (7.1) | 132.2 (8.0) |
| Microalbumin:Creatinine | 1.7 (7.6) | 1.3 (2.7) | 10.6 (31.4) | 3.8 (16.1) |
| Urinary VDBP (ng/mL) | 80.8 (469.9) | 73.7 (149.7) | 175.0 (521.3) | 80.3 (130.1) |
| Urinary Creatinine (mmol/L) | 11.3 (6.2) | 13.7 (9.4) | 17.6 (25.2) | 10.4 (8.5) |
| Urinary Microalbumin (mg/L) | 11.9 (44.7) | 11.4 (22.7) | 113.7 (431.0) | 12.8 (21.9) |
| Creatinine | 66.8 (9.5) | 89.4 (8.8) | 119.9 (20.4) | 50.0 (9.3) |
| Serum 25(OH)D (nmol/L) | 64.1 (27.4) | 73.0 (23.1) | 65.6 (23.2) | 51.1 (23.8) |
| Diastolic Blood Pressure (mmHg) | 80.1 (10.0) | 79.7 (9.5) | 79.5 (8.3) | 77.1 (11.5) |
| Mean Arterial Pressure (mmHg) | 95.4 (10.9) | 96.5 (10.4) | 98.0 (7.4) | 91.0 (12.4) |
| Systolic Blood Pressure (mmHg) | 125.9 (15.3) | 130.2 (14.9) | 135.1 (10.0) | 118.7 (16.2) |
| Parathyroid Hormone (pmol/L) | 4.7 (1.8) | 4.8 (1.7) | 6.2 (2.9) | 4.9 (1.8) |
| Serum ALT (U/L) | 28.7 (15.8) | 34.5 (39.7) | 35.8 (30.7) | 31.6 (32.3) |
| Fasting | 5.4 (1.1) | 5.5 (1.0) | 5.3 (0.7) | 5.3 (1.8) |
| 2h OGTT | 6.6 (2.5) | 6.6 (2.7) | 6.7 (1.8) | 6.6 (2.3) |
| Diabetic Status |  |  |  |  |
| - Diabetes | 221 (15.8%) | 70 (21.5%) | 3 (18.8%) | 9 (9.7%) |
| - Normal | 981 (70.1%) | 202 (62%) | 12 (75%) | 70 (75.3%) |
| - Prediabetes | 198 (14.1%) | 54 (16.6%) | 1 (6.2%) | 14 (15.1%) |

## Moderate to Severe eGFR

### Cross-sectional at Baseline

At baseline, there were 2 people who had estimated glomerular filtration rate (eGFR) of less than 60 ml/min/1.73m^2. These individuals are classified as having moderate kidney dysfunction according to the National Kidney Foundation. Upon taking a closer look at these individuals, their eGFR values are only slightly below the 60 ml/min/1.73m^2 cut-off. These two subjects had missing values for both 3 year and 6 year visits.

|  |  |
| --- | --- |
| SID | Baseline |
| 2075 | 57.1 |
| 2266 | 59.5 |

### Prospective

At the 3 year follow-up visit, there were 8 subjects who had eGFR less than 60 ml/min/1.73m^2. This number increased to 6 at the 6 year follow-up. The lowest eGFR was 35.4 ml/min. There were two subjects with eGFR of <45 ml/min/1.73m^2, which is classified as moderate to severe kidney dysfunction. Unfortunately, no subjects have eGFR values across all time-points, making progression of the disease difficult to analyse. There were two subjects with eGFR measurements at the 3 year and 6 year time points. Their eGFR either did not change much (58.3ml/min at 3 year and 58.8ml/min at 6 year) or decreased (59.6ml/min at 3 year and 54.7ml/min at 6 year).