Preliminary analysis of estimated glomerular filtration rate using the PROMISE cohort at baseline

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# Subject Characterization

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Row | Normal | Mild | Moderate | Hyperfiltration |
| Age (years) | 49.5 (9.1) | 56.3 (10.3) | 66.5 (12.0) | 38.7 (7.8) |
| 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 | 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) |
| Estimated GFR (ml/min/1.73m^2) | 106.9 (8.6) | 82.0 (6.2) | 58.3 (1.7) | 132.5 (7.2) |
| Microalbumin:Creatinine | 1.2 (3.6) | 1.0 (2.8) | 50.5 (69.9) | 1.7 (3.6) |
| Urinary VDBP (ng/mL) | 67.3 (83.2) | 64.6 (70.1) | 1106.5 (1437.5) | 77.4 (88.5) |
| Urinary Creatinine (mmol/L) | 11.4 (6.2) | 14.2 (6.5) | 10.3 (1.3) | 10.4 (6.6) |
| Urinary Microalbumin (mg/L) | 10.2 (17.9) | 10.0 (10.8) | 870.0 (1216.2) | 11.0 (12.7) |
| Creatinine | 67.8 (9.5) | 90.3 (7.5) | 112.5 (10.6) | 51.1 (8.5) |
| Serum 25(OH)D (nmol/L) | 54.7 (23.1) | 63.6 (19.4) | 41.8 (45.0) | 46.6 (24.1) |
| 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) | 97.4 (10.4) | 88.2 (0.4) | 91.0 (13.6) |
| Systolic Blood Pressure (mmHg) | 125.9 (15.9) | 130.4 (14.2) | 131.8 (9.5) | 118.6 (17.4) |
| Parathyroid Hormone (pmol/L) | 4.6 (1.7) | 4.6 (1.5) | 8.7 (4.6) | 4.6 (1.8) |
| Serum ALT (U/L) | 31.3 (16.6) | 37.3 (20.5) | 33.0 (17.0) | 27.3 (15.5) |
| Fasting | 5.1 (0.9) | 5.3 (1.1) | 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%) |

TABLE 2: Subject characteristic according to estimated GFR categories across 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 35.4193293. 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 and58.8ml/min at 6 year) or decreased (59.6ml/min at 3 year and 54.7ml/min at 6 year).