**Direct determination rather than oscillometric estimation of systolic blood pressure in patients with severe chronic kidney disease**

# Supplemental Material

**Supplemental Table 1.** Age, body mass index and blood pressure values *versus* diabetes

|  |  |  |  |
| --- | --- | --- | --- |
|  | **No Diabetes** | **Type 1 Diabetes** | **Type 2 Diabetes** |
| **n** | 52 | 4 | 33 |
| **Age** | 73.0[63.5‒85.0) | 58.5 (48.0‒70.0) | 58.5[53.0‒64.5) |
| **BMI** | 24.6[21.8‒28.4) | 24.4 (18.4‒34.2) | 24.4[21.0‒29.7) |
| **SBPk** | 139.0[122.0‒151.5) | 166.5(131.0‒203.0) | 166.5[144.0‒189.5) |
| **DBPk** | 70.5[62.5‒78.5) | 55.0(44.0‒83.0) | 55.0[45.0‒73.5) |
| **PPk** | 65.5[52.0‒81.0) | 93.0[90.0‒125.0) | 79.0[70.5‒100.0) |
| **SBPs** | 137.5[122.0‒150.0) | 158.5(126.0‒198.0) | 158.5[141.5‒179.0) |
| **SBPm** | 134.5[119.0‒147.0) | 159.0(123.0‒181.0) | 159.0[135.5‒175.5) |

Values are provided as median [lower‒upper quartile) or median(minimum‒maximum). BMI: body mass index; SBPk, DBPk, PPk: systolic, diastolic, and pulse pressure obtained with the auscultatory technique; SBPs: systolic blood pressure obtained by the *SFATI* technique; SBPm: systolic blood pressure obtained by oscillometry.

**Supplemental Table 2**. Contingency table of systolic blood pressure classification below or above the 120 mm Hg threshold, by SFATI and by oscillometry compared with Korotkoff sounds.

|  |  |  |
| --- | --- | --- |
|  | **SBPk ≤ 120 mm Hg** | **SBPk > 120 mm Hg** |
| **SFATI - Kappa 0.96 (95%CI 0.89‒1)** |
| **SBPs ≤ 120 mm Hg** | 16 | 1 |
| **SBPs > 120 mm Hg** | 0 | 71 |
|  | **SBPk ≤ 120 mm Hg** | **SBPk > 120 mm Hg** |
| **Oscillometry - Kappa 0.74 (95%CI 0.56‒0.92)** |
| **SBPm ≤ 120 mm Hg** | 13 | 4 |
| **SBPm > 120 mm Hg** | 3 | 69 |

Legend: SBPk: systolic blood pressure (mm Hg) measured by the auscultatory technique (Korotkoff sounds); SBPs: systolic blood pressure (mm Hg) measured by the SFATI technique; SBPm: systolic blood pressure measured (mm Hg) by oscillometry.

**Supplemental Table 3.** Stratified analysis of the linear regression between pulse pressure (PPk) and the quantitative systolic blood pressure measurement bias between measurement by Korotkoff sounds and the *SFATI* technique (SBPs) or oscillometry (SBPm).

|  |  |  |
| --- | --- | --- |
|  | **SBPk - SBPs bias**Beta regression coefficient (SE) | **SBPk - SBPm bias**Beta regression coefficient (SE) |
| Patients without Type 1 Diabetes (n=85) | **0.047 (0.022) \*** | **0.171 (0.050) \*\*\*** |
| Age <65 years (n=22) | -0.043 (0.052) | 0.085 (0.094)  |
|  65-80 years (n=35) | **0.095 (0.038) \*** | **0.195 (0.074) \*** |
|  >80 years (n=28) | 0.002 (0.018) | **0.238 (0.116) \*** |
| Sex Female (n=25) | 0.026 (0.017) | 0.160 (0.106) |
|  Male (n=60) | 0.056 (0.030) | **0.176 (0.056) \*\*** |
| Type 2 Diabetes (n=33) | **0.102 (0.044) \*** | 0.212 (0.101) \* |
| No Diabetes (n=52) | 0.035 (0.023) | **0.212 (0.056) \*\*\*** |
| CKD Stage 4 (n=30) | **0.077 (0.037) \*** | **0.197 (0.083) \*** |
|  Stage 5 (n=27) | 0.070 (0.034) | 0.160 (0.085) |
|  Dialyzed (n=28) | -0.031 (0.042) | 0.200 (0.106) |

**Legend**: SBPk: systolic blood pressure (mm Hg) measured by the auscultatory technique (Korotkoff sounds); SBPs: systolic blood pressure (mm Hg) measured by the *SFATI* technique; SBPm: systolic blood pressure measured (mm Hg) by oscillometry. Significant association between pulse pressure measured with auscultation (PPk) and the measurement bias: \* P<0.05; \*\* P<0.01; \*\*\* P<0.001; \*\*\*\* P<0.0001

**Supplemental Figure 1** – Bland & Altman plot of differences versus mean of systolic blood pressure measured by *SFATI* (SBPs) or by oscillometry (SBPm) and the Korotkoff sounds (SBPk).

