Appendix H. Table 2. Followup urine biochemical measures for thiazide trials

| **Study** | **Treatment Groups, Urine Collection Method**  | **Calcium,****Oxalate,****Ca-Ox Product,** **Ca-Ox Supersaturation** | **Uric Acid, Uric-A Supersaturation** | **Phosphate, Ca-P Supersaturation** | **Citrate, Sodium, Magnesium** | **Potassium (K), Volume, pH** |
| --- | --- | --- | --- | --- | --- | --- |
| Fernandez-Rodriguez, 20069 | A. Hydrochlorothiazide 50 mg/d (n=50)B. Potassium citrate 20 mEq/d + hydrochlorothiazide 50 mg/d + (n=50)C. No treatment (n= 50)Urine collection method not specified Study reported any data on participant compliance/adherence: No | CALCIUMBaselineMean (SD): NR% hyperCa: A – 42%B – 28%C – 34%F/u Time 1: 12 mo.Mean (SD): NR% hyperCa:A – 16%B – 4%C – 26%OXALATEBaselineMean (SD): NR% hyperOx: A – NRB – 2%C – 2% | URIC ACIDBaselineMean (SD): NR% hyperUA: A – 2%B – 6%C – 4%F/u Time 1: 12 mo.Mean (SD): NR% hyperUA: A – NRB – 16%C – 2%URIC-A SUPERSATBaselineMean (SD): NRF/u Time 1: mo.Mean (SD): NR | PHOSPHATEBaselineNMean (SD): NR% hyperP: F/u Time 1: mo.NMean (SD): NR% hyperP: CA-P SUPERSATBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR | CITRATEBaselineMean (SD): NR% hypoCit: A – 14%B – 16%C – 14%F/u Time 1: 12 mo.Mean (SD): NR% hypoCit: A – 22%B – 16%C – 14%SODIUMBaselineNMean (SD): NR% hyperNa: NRF/u Time 1: mo.N | POTASSIUMBaselineNMean (SD): NR% hypoK: NRF/u Time 1: mo.NMean (SD): NR% hypoK: NRVOLUMEBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NRpHBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR |

| Appendix H. Table 2. Followup urine biochemical measures for thiazide trials (continued) |
| --- |
| **Study** | **Treatment Groups, Urine Collection Method**  | **Calcium,****Oxalate,****Ca-Ox Product,** **Ca-Ox Supersaturation** | **Uric Acid, Uric-A Supersaturation** | **Phosphate, Ca-P Supersaturation** | **Citrate, Sodium, Magnesium** | **Potassium (K), Volume, pH** |
|  |  | F/u Time 1:12 mo.Mean (SD): NR% hyperOx: A – NRB – 2%C – 4%CA-OX PRODUCTBaselineNMean (SD): NRTime 1: mo.NMean (SD): NRCA-OX SUPERSATBaselineNMean (SD): NRTime 1: mo.NMean (SD): NR |  |  | Mean (SD): NR% hypoMg: NRF/u Time 1: mo.NMean (SD): NR% hypoMg: NR |  |
| Borghi, 199311 | A. Indapamide 2.5 mg/d (n=25). B. Allopurinol 300 mg/d + Indapamide 2.5 mg/d (n=25). C. Control (diet/increased fluid treatment) (n=25)24 hour collectionStudy reported any data on participant compliance/adherence: No  | CALCIUMBaselineMean mg/24 hr(SD):A (n=19) 387 (121);B (n=24) 410 (154);C (n=21) 381 (156)% hyperCa: NRF/u Time 1: 6 mo.Mean mg/24 hr(SD):A (n=19) 237 (96) [p<0.001];B (n=24) 231 (115) [p<0.001];C (n=21) 284 (99) [p<0.01]% hyperCa: NROXALATEBaselineMean mg/24 hr(SD):A (n=19) 29 (13);B (n=24) 33 (15);C (n=21) 25 (8)% hyperOx: NRF/u Time 1: 6 mo.Mean mg/24 hr(SD):A (n=19) 27 (14);B (n=24) 28 (11);C (n=21) 24 (13)% hyperOx: NRCA-OX PRODUCTBaselineMean (SD): NRTime 1: mo.Mean (SD): NRCA-OX SUPERSATBaselineMean (SD): NRTime 1: mo.Mean (SD): NR | URIC ACIDBaselineMean mg/24 hr(SD):A (n=19) 642 (191);B (n=24) 811 (351);C (n=21) 788 (210)% hyperUA: NRF/u Time 1: 6 mo.Mean mg/24 hr(SD):A (n=19) 692 (319);B (n=24) 535 (255) [p<0.001];C (n=21) 613 (193) [p<0.01]% hyperUA: NRURIC-A SUPERSATBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR | PHOSPHORUSBaselineMean mg/24 hr(SD):A (n=19) 812 (189);B (n=24) 936 (314);C (n=21) 884 (262)% hyperP: NRF/u Time 1: 6 mo.Mean mg/24 hr(SD):A (n=19) 776 (265);B (n=24) 911 (263);C (n=21) 772 (237) [p<0.05]% hyperP: NRCA-P SUPERSATBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR | CITRATEBaselineMean mg/24 hr(SD):A (n=19) 484 (172);B (n=24) 535 (271);C (n=21) 637 (391)% hypoCit: NRF/u Time 1: 6 mo.Mean mg/24 hr(SD):A (n=19) 491 (214);B (n=24) 484 (234);C (n=21) 557 (247)% hypoCit: NRSODIUMBaselineMean mM/24 hr(SD):A (n=19) 210 (61);B (n=24) 218 (80);C (n=21) 201 (64)% hyperNa: NRF/u Time 1: 6 mo.Mean mM/24 hr(SD):A (n=19) 208 (80);B (n=24) 190 (76);C (n=21) 159 (51) [p<0.05]% hyperNa: NRMAGNESIUMBaselineMean mg/24 hr(SD):A (n=19) 106 (37);B (n=24) 116 (36);C (n=21) 108 (33)% hypoMg: NRF/u Time 1: 6 mo.Mean mg/24 hr(SD):A (n=19) 94 (38);B (n=24) 104 (44);C (n=21) 81 (28) [p<0.001]% hypoMg: NR  | POTASSIUMBaselineMean mM/24 hr(SD):A (n=19) 54 (15);B (n=24) 54 (15);C (n=21) 50 (13)% hypoK: NRF/u Time 1: 6 mo.Mean mM/24 hr(SD):A (n=19) 51 (22);B (n=24) 58 (25);C (n=21) 51 (15)% hypoK: NRVOLUMEBaselineMean mL/24 hr(SD):A (n=19) 1813 (480);B (n=24) 1995 (772);C (n=21) 1541 (774)F/u Time 1: 6 mo.Mean mL/24 hr(SD):A (n=19) 2045 (807);B (n=24) 2193 (897);C (n=21) 1509 (646)pHBaselineMean 24 hr(SD):A (n=19) 5.83 (0.43);B (n=24) 5.75 (0.46);C (n=21) 5.86 (0.51)F/u Time 1: 6 mo.Mean 24 hr(SD):A (n=19) 5.95 (0.49);B (n=24) 6.06 (0.59) [p<0.005];C (n=21) 5.90 (0.53) |
| Ettinger, 198812 | A. Chlorthalidone 25 mg/d (n=19)B. Chlorthalidone 50 mg/d (n=23)C. Magnesium hydroxide 650 mg/d (n=30)D. Magnesium hydroxide 1300 mg/d (n=21)E. Placebo (n=31)24 hour collectionStudy reported any data on participant compliance/adherence: Yes (medication compliance confirmed by tablet count – no results reported) | CALCIUMBaselineMean mg/24 hr(SD): A (n=19) 271 (125)B (n=23) 299 (138)C (n=30) 275 (127)D (n=21) 247 (136)E (n=31) 232 (117)% hyperCa: A (n=19) 15.8B (n=23) 13.0C (n=30) 13.3D (n=21) 14.3E (n=31) 9.7F/u Time 1: 24 mo.Mean (SD):A (n=19) 196 [p<0.01]B (n=23) 233 [p<0.01]C (n=30) no signif changeD (n=21) no signif changeE (n=31) no signif change% hyperCa: NROXALATEBaselineMean mg/24 hr(SD): A (n=19) 21 (16)B (n=23) 19 (12)C (n=30) 29 (19)D (n=21) 28 (19)E (n=31) 23 (15)% hyperOx: NRF/u Time 1: 24 mo.Mean mg/24 hr(SD): A (n=19) 8 [p<0.05]B (n=23) 14 [not signif]C (n=30) no signif changeD (n=21) no signif changeE (n=31) no signif change % hyperOx: NRCA-OX PRODUCTBaselineNMean (SD): NRTime 1: mo.NMean (SD): NRCA-OX SUPERSATBaselineNMean (SD): NRTime 1: mo.NMean (SD): NR | URIC ACIDBaselineMean mg/24 hr(SD): A (n=19) 768 (207)B (n=23) 826 (206)C (n=30) 837 (257)D (n=21) 734 (181)E (n=31) 699 (210)% hyperUA: A (n=19) 21.1B (n=23) 26.1C (n=30) 6.7D (n=21) 9.5E (n=31) 9.7F/u Time 1: mo.Mean mg/24 hr(SD): All groups- no signif change% hyperUA: NRURIC-A SUPERSATBaselineMean (SD): NRF/u Time 1: mo.Mean (SD): NR | PHOSPHATEBaselineNMean (SD): NR% hyperP: NRF/u Time 1: mo.NMean (SD): NR% hyperP: NRCA-P SUPERSATBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR | CITRATEBaselineNMean (SD): NR% hypoCit: NRF/u Time 1: mo.NMean (SD): NR% hypoCit: NRSODIUMBaselineNMean (SD): NR% hyperNa: NRF/u Time 1: mo.NMean (SD): NR% hyperNa: NRMAGNESIUMBaselineMean mg/24 hr(SD): A (n=19) 93 (33)B (n=23) 97 (38)C (n=30) 91 (27)D (n=21) 97 (27)E (n=31) 95 (45)% hypoMg: NRF/u Time 1: 24 mo.Mean mg/24 hr(SD): A (n=19) no signif changeB (n=23) no signif changeC (n=30) 137 [p<0.001]D (n=21) 148 [p<0.001]E (n=31) no signif change% hypoMg: NR | POTASSIUMBaselineNMean (SD): NR% hypoK: NRF/u Time 1: mo.NMean (SD): NR% hypoK: NRVOLUMEBaselineMean mL/24 hr(SD): A (n=19) 1744 (720)B (n=23) 1671 (690)C (n=30) 1894 (814)D (n=21) 1579 (675)E (n=31) 1482 (671)F/u Time 1: 24 mo.Mean mL/24 hr(SD): All groups- no signif changepHBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR |
| Ala-Opas, 198713 | A. Hydrochlorothiazide 100mg/day for first 5 months (+ bran) (n=28) [hypercalciuric [HU] = 14, normocalciuric [NU] = 14]B. Control (bran) (n=45) [hypercalciuric [HU] = 18, normocalciuric [NU] = 27]24 hour collectionStudy reported any data on participant compliance/adherence: No | CALCIUM/CREATININEBaselineMean mmol/mmol (SD): A[HU] (n=14) 0.64 (0.17)B[HU] (n=18) 0.57 (0.12)A[NU] (n=14) 0.36 (0.14)B[NU] (n=27) 0.37 (0.08) % hyperCa: 41.0F/u Time 1: 6 mo.Mean mmol/mmol (SD): A[HU] (n=14) 0.34 (0.15) [p<0.05]B[HU] (n=18) 0.37 (0.13) [p<0.05]A[NU] (n=14) 0.19 (0.08)B[NU] (n=27) 0.29 (0.16)% hyperCa: OXALATEBaselineMean µmol (SD): A[HU] (n=14) 256 (101)B[HU] (n=18) 276 (153)A[NU] (n=14) 167 (71)B[NU] (n=27) 219 (111)% hyperOx: NRF/u Time 1: 6 mo.Mean µmol (SD): A[HU] (n=14) 194 (70)B[HU] (n=18) 281 (189)A[NU] (n=14) 279 (136)B[NU] (n=27) 334 (86)% hyperOx: NRCA-OX PRODUCTBaselineMean (SD): NRTime 1: mo.Mean (SD): NRCA-OX SUPERSATBaselineMean (SD): NRTime 1: mo.Mean (SD): NR | URIC ACIDBaselineMean (SD): NR% hyperUA: NRF/u Time 1: mo.Mean (SD): NR% hyperUA: NRURIC-A SUPERSATBaselineMean (SD): NRF/u Time 1: mo.Mean (SD): NR | PHOSPHATEBaselineNMean (SD): NR% hyperP: NRF/u Time 1: mo.NMean (SD): NR% hyperP: NRCA-P SUPERSATBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR | CITRATEBaselineMean (SD): NR% hypoCit: NRF/u Time 1: mo.Mean (SD): NR% hypoCit: NRSODIUMBaselineMean mmol (SD): A[HU] (n=14) 156 (88)B[HU] (n=18) 158 (62)A[NU] (n=14) 113 (33)B[NU] (n=27) 135 (53)% hyperNa: NRF/u Time 1: 6 mo.Mean µmol (SD): A[HU] (n=14) 149 (71)B[HU] (n=18) 144 (53)A[NU] (n=14) 130 (52)B[NU] (n=27) 138 (70)% hyperNa: NRMAGNESIUMBaselineMean mmol (SD): A[HU] (n=14) 4.1 (2.1)B[HU] (n=18) 3.0 (1.4)A[NU] (n=14) 3.7 (1.6)B[NU] (n=27) 4.0 (1.6)% hypoMg: NRF/u Time 1: 6 mo.Mean µmol (SD): A[HU] (n=14) 3.4 (1.4)B[HU] (n=18) 3.6 (1.4)A[NU] (n=14) 3.5 (1.4)B[NU] (n=27) 3.7 (1.4)% hypoMg: NR | POTASSIUMBaselineMean (SD): NR% hypoK: NRF/u Time 1: mo.Mean (SD): NR% hypoK: NRVOLUMEBaselineMean (SD): NRF/u Time 1: mo.Mean (SD): NRpHBaselineMean (SD): NRF/u Time 1: mo.Mean (SD): NR |
| Laerum, 198414 | A. Hydrochlorothiazide 50 mg/d + potassium chloride 1.2 gm/d (n=23)B. Placebo (n=25)24 hour collectionStudy reported any data on participant compliance/adherence: No | CALCIUMBaselineMean mmol (SD):A (n=23) 4.3 (0.55)B (n=25) 4.92 (0.42) % hyperCa: 27.1F/u Time 1: 10 mo.Mean mmol (SD):A (n=17) 3.79 (0.46)B (n=21) 5.0 (0.44)[p<0.05 A vs B]% hyperCa: NROXALATEBaselineMean (SD): NR% hyperOx: NRF/u Time 1: mo.NMean (SD): NR% hyperOx: NRCA-OX PRODUCTBaselineNMean (SD): NRTime 1: mo.NMean (SD): NRCA-OX SUPERSATBaselineNMean (SD): NRTime 1: mo.NMean (SD): NR | URIC ACIDBaselineMean mmol (SD):A (n=23) 3.2 (0.25)B (n=25) 3.1 (0.21)% hyperUA: 25.0F/u Time 1: 10 mo.Mean mmol (SD):A (n=17) 3.3 (0.28)B (n=21) 3.5 (0.19)% hyperUA: NRURIC-A SUPERSATBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR | PHOSPHATEBaselineNMean (SD): NR% hyperP: NRF/u Time 1: mo.NMean (SD): NR% hyperP: NRCA-P SUPERSATBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR | CITRATEBaselineNMean (SD): NR% hypoCit: NRF/u Time 1: mo.NMean (SD): NR% hypoCit: NRSODIUMBaselineNMean (SD): NR% hyperNa: NRF/u Time 1: mo.NMean (SD): NR% hyperNa: NRMAGNESIUMBaselineMean mmol (SD):A (n=23) 3.79 (0.26)B (n=25) 4.20 (0.22)% hypoMg: NRF/u Time 1: 10 mo.Mean mmol (SD):A (n=17) 4.28 (0.26)B (n=21) 4.40 (0.22)% hypoMg: NR | POTASSIUMBaselineNMean (SD): NR% hypoK: NRF/u Time 1: mo.NMean (SD): NR% hypoK: NRVOLUMEBaselineMean mL (SD):A (n=23) 1522 (114)B (n=25) 1374 (108)F/u Time 1: 10 mo.Mean mL (SD):A (n=17) 1492 (95)B (n=21) 1638 (96)pHBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR |
| Scholz, 198215 | A. Hydrochlorothiazide 50 mg/d (n=25)B. Placebo (n=26)24 hour collectionStudy reported any data on participant compliance/adherence: No | CALCIUMBaselineMean mg (SD):A (n=25) 249 (20)B (n=20) 272 (32) % hyperCa: NRF/u Time 1: 12 mo.Mean mg (SD):A (n=25) 153 (22) [p<0.001]B (n=20) 235 (26) % hyperCa: NROXALATEBaselineMean mg (SD):A (n=16) 42 (6)B (n=13) 47 (6) % hyperOx: NRF/u Time 1:12 mo.Mean mg (SD):A (n=16) 35 (6)B (n=13) 22 (6) [p<0.05]% hyperOx: NRCA-OX PRODUCTBaselineMean (SD): A (n=16) 0.96 (0.07)B (n=13) 0.98 (0.06)Time 1: 12 mo.Mean (SD): A (n=16) 0.71 (0.08) [p<0.05]B (n=13) 0.71 (0.08) [p<0.05]CA-OX SUPERSATBaselineNMean (SD): NRTime 1: mo.NMean (SD): NR | URIC ACIDBaselineMean mg (SD):A (n=25) 641 (45)B (n=19) 699 (37) % hyperUA: NRF/u Time 1: 12 mo.Mean mg (SD):A (n=25) 593 (50)B (n=19) 551 (33) % hyperUA: NRURIC-A SUPERSATBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR | PHOSPHATEBaselineMean mg (SD):A (n=25) 784 (70)B (n=19) 824 (75) % hyperP: NRF/u Time 1: 12 mo.Mean mg (SD):A (n=25) 737 (46)B (n=19) 759 (44) % hyperP: NRCA-P SUPERSATBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR | CITRATEBaselineMean mg (SD):A (n=16) 345 (74)B (n=16) 350 (46) % hypoCit: NRF/u Time 1: 12 mo.Mean mg (SD):A (n=16) 332 (70)B (n=16) 309 (41) % hypoCit: NRSODIUMBaselineMean mEq (SD):A (n=25) 197 (15)B (n=19) 184 (13) % hyperNa: NRF/u Time 1: 12 mo.Mean mEq (SD):A (n=25) 173 (14)B (n=19) 142 (11) [p<0.05] % hyperNa: NRMAGNESIUMBaselineMean mg (SD):A (n=25) 103 (9)B (n=20) 102 (9) % hypoMg: NRF/u Time 1: 12 mo.Mean mg (SD):A (n=25) 89 (9)B (n=20) 85 (5) [p<0.05]% hypoMg: NR | POTASSIUMBaselineMean mEq (SD):A (n=25) 61 (5)B (n=19) 64 (7) % hypoK: NRF/u Time 1: 12 mo.Mean mEq (SD):A (n=25) 60 (5)B (n=19) 50 (4) % hypoK: NRVOLUMEBaselineMean mL (SD):A (n=25) 1820 (136)B (n=20) 1891 (116) F/u Time 1: 12 mo.Mean mL (SD):A (n=25) 1820 (166)B (n=20) 1658 (142) pHBaselineNMean (SD): NRF/u Time 1: mo.NMean (SD): NR |

**Abbreviation:** NR = not reported