Appendix H. Table 1. Followup urine biochemical measures for diet 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** |
| --- | --- | --- | --- | --- | --- | --- |
| Dussol, 20081 | A. Low animal protein diet, decrease intake of animal protein by limiting consumption of meat and fish to 3 servings per week and to not exceed 100 g/day of milk products. The target was to obtain a daily contribution of protein to energy of <13% (n=55).  B. High fiber diet, increase intake of fruits and vegetables and to substitute their usual cereals with whole grain dietary products in order to limit the increase in energy. The target was to obtain a 25-g/day increase in fiber intake.  Subjects were not instructed to exclude fruits and vegetables particularly rich in oxalate (n=60).  C. Controls (usual diet) (n=60)  24 hour collection | CALCIUM  Baseline  Mean mmol (SD):  A (n=55) 6.8 (3.1)  B (n=60) 6.8 (3.1)  C (n=60) 6.8 (3.1)  % hyperCa: NR  F/u Time 1: 12 mo.  Mean mmol (SD):  A (n=41) 6.0 (2.4)  B (n=45) 6.9 (3.0)  C (n=37) 5.8 (3.0)  % hyperCa: NR  OXALATE  Baseline  Mean mmol (SD):  A (n=55) 0.30 (0.1)  B (n=60) 0.31 (0.2)  C (n=60) 0.32 (0.1)  % hyperOx: NR  F/u Time 1: 12 mo.  Mean mmol (SD):  A (n=41) 0.25 (0.1)  B (n=45) 0.29 (0.1)  C (n=37) 0.27 (0.1)  % hyperOx: NR  CA-OX PRODUCT  Baseline  N  Mean (SD): NR  Time 1: mo. | URIC ACID  Baseline  N  Mean (SD): NR  % hyperUA: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperUA: NR  URIC-A SUPERSAT  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N  Mean (SD): NR | PHOSPHATE  Baseline  N  Mean (SD): NR  % hyperP: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperP: NR  CA-P SUPERSAT  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N  Mean (SD): NR | CITRATE  Baseline  Mean mmol (SD):  A (n=55) 2.9 (1.9)  B (n=60) 3.3 (3.2)  C (n=60) 3.2 (2.5)  % hypoCit: NR  F/u Time 1: 12 mo.  Mean mmol (SD):  A (n=41) 2.8 (1.1)  B (n=45) (2.3 (1.2)  C (n=37) 2.6 (1.2)  % hypoCit: NR  SODIUM  Baseline  Mean mmol (SD):  A (n=55) 149 (44)  B (n=60) 163 (58)  C (n=60) 164 (56)  % hyperNa: NR  F/u Time 1: 12 mo.  Mean mmol (SD):  A (n=41) 167 (46)  B (n=45) 144 (70)  C (n=37) 146 (64)  % hyperNa: NR  MAGNESIUM  Baseline  N  Mean (SD): NR  % hypoMg: NR | POTASSIUM  Baseline  N  Mean (SD): NR  % hypoK: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoK: NR  VOLUME  Baseline  Mean L (SD):  A (n=55) 1.9 (0.8)  B (n=60) 2.0 (0.7)  C (n=60) 1.8 (0.7)  F/u Time 1: 12 mo.  Mean L (SD):  A (n=41) 2.0 (0.9)  B (n=45) 2.0 (0.7)  C (n=37) 1.8 (0.6)  pH  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N Mean (SD): NR |

| Appendix H. Table 1. Followup urine biochemical measures for diet 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** |
|  | Study reported any data on participant compliance/adherence: No | N  Mean (SD): NR  CA-OX SUPERSAT  Baseline  N  Mean (SD): NR  Time 1: mo.  N  Mean (SD): NR |  |  | F/u Time 1: mo.  N  Mean (SD): NR  % hypoMg: NR |  |
| Borghi, 20023 | A. Low calcium diet  (<10 mmol) (n= 60)  B. Low protein (<93 g) and low sodium (50 mmol) diet (n=60)  24 hour collection  Study reported any data on participant compliance/adherence: Yes (urine specimen obtained one week after randomization was analyzed to check compliance with the dietary regimen, but no data was reported) | CALCIUM  Baseline  Mean mmol (SD):  A (n=60) 11.0 (2.5)  B (n=60) 11.5 (2.5)  % hyperCa: NR  F/u Time 1: 12 mo.  Mean mmol (SD):  A (n=51) 7.6 (2.9)  B (n=53) 7.3 (2.5)  % hyperCa: NR  OXALATE  Baseline  Mean µmol (SD):  A (n=60) 367 (136)  B (n=60) 411 (132)  % hyperOx: NR  F/u Time 1:12 mo.  Mean µmol (SD):  A (n=51) 422 (144)  B (n=53) 344 (92) [p<0.001]  % hyperOx: NR  CA-OX PRODUCT  Baseline  Mean molX10-6/L (SD):  A (n=60) 2.07 (2.11)  B (n=60) 1.82 (1.26)  Time 1: 12 mo.  Mean molX10-6/L (SD):  A (n=51) 1.25 (1.17)  B (n=53) 0.70 (0.48) [p<0.01]  CA-OX SUPERSAT  Baseline  Mean (SD):  A (n=60) 10.1 (5.5)  B (n=60) 9.6 (4.2)  Time 1: 12 mo.  Mean (SD):  A (n=51) 7.3 (4.3)  B (n=53) 5.1 (2.5) [p<0.01] | URIC ACID  Baseline  N  Mean (SD): NR  % hyperUA: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperUA: NR  URIC-A SUPERSAT  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N  Mean (SD): NR | PHOSPHATE  Baseline  N  Mean (SD): NR  % hyperP: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperP: NR  CA-P SUPERSAT  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N  Mean (SD): NR | CITRATE  Baseline  N  Mean (SD): NR  % hypoCit: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoCit: NR  SODIUM  Baseline  Mean mmol (SD):  A (n=60) 227 (59)  B (n=60) 241 (67)  % hyperNa: NR  F/u Time 1: 12 mo.  Mean mmol (SD):  A (n=51) 210 (55)  B (n=53) 130 (85) [p<0.001]  % hyperNa: NR  MAGNESIUM  Baseline  N  Mean (SD): NR  % hypoMg: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoMg: NR | POTASSIUM  Baseline  N  Mean (SD): NR  % hypoK: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoK: NR  VOLUME  Baseline  Mean mL (SD):  A (n=60) 1755 (844)  B (n=60) 1852 (643)  F/u Time 1: 12 mo.  Mean mL (SD):  A (n=51) 1905 (713)  B (n=53) 2095 (623)  pH  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N Mean (SD): NR |
| Di Silverio, 20004 | A. “Fiuggi water’” oligo-mineral water with a calcium content of 15 mg/I, 2 liters within a 24-hour period (n=192)  B. tap water with a calcium content between 55 and 130 mg/l, 2 liters within a 24-hour period (n=192)  24 hour collection  Study reported any data on participant compliance/adherence: No | CALCIUM  Baseline  Mean mg (SD):  A (n=192) 270.67  B (n=192) 283.09  % hyperCa: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperCa: NR  OXALATE  Baseline  N  Mean (SD): NR  % hyperOx: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperOx: NR  CA-OX PRODUCT  Baseline  N  Mean (SD): NR  Time 1: mo.  N  Mean (SD): NR  CA-OX SUPERSAT  Baseline  N  Mean (SD): NR  Time 1: mo.  N  Mean (SD): NR | URIC ACID  Baseline  Mean mg (SD):  A (n=192) 554.95  B (n=192) 577.45  % hyperUA: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperUA: NR  URIC-A SUPERSAT  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N  Mean (SD): NR | PHOSPHATE  Baseline  Mean mg (SD):  A (n=192) 768.92  B (n=192) 841.08  % hyperP: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperP: NR  CA-P SUPERSAT  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N  Mean (SD): NR | CITRATE  Baseline  N  Mean (SD): NR  % hypoCit: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoCit: NR  SODIUM  Baseline  Mean mmol (SD):  A (n=192) 186.3  B (n=192) 181.1  % hyperNa: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperNa: NR  MAGNESIUM  Baseline  Mean mg (SD):  A (n=192) 107.4  B (n=192) 105.8  % hypoMg: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoMg: NR | POTASSIUM  Baseline  N  Mean (SD): NR  % hypoK: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoK: NR  VOLUME  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N  Mean (SD): NR  pH  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N Mean (SD): NR |
| Kočvara, 19995 | A. Tailored diet (n=113)  B. General diet (n=94)  24 hour collection  Study reported any data on participant compliance/adherence: No | CALCIUM  Baseline  Mean mmol (SD):  A (n=113) 5.09 (2.36)  B (n=94) NR  % hyperCa: NR  F/u Time 1: 6 mo.  Mean mmol (SD):  A (n=113) 5.77 (2.30) [p<0.01]  B (n=94) NR  % hyperCa: NR  OXALATE  Baseline  Mean µmol (SD):  A (n=88) 351 (156)  B (n=94) NR  % hyperOx: NR  F/u Time 1:6 mo.  Mean µmol (SD):  A (n=88) 334 (138)  B (n=94) NR  % hyperOx: NR  CA-OX PRODUCT  Baseline  N  Mean (SD): NR  Time 1: mo.  N  Mean (SD): NR  CA-OX SUPERSAT  Baseline  N  Mean (SD): NR  Time 1: mo.  N  Mean (SD): NR | URIC ACID  Baseline  Mean mmol (SD):  A (n=113) 3.74 (1.18)  B (n=94) NR  % hyperUA: NR  F/u Time 1: 6 mo.  Mean mmol (SD):  A (n=113) 3.62 (1.34)  B (n=94) NR  % hyperUA: NR  URIC-A SUPERSAT  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N  Mean (SD): NR | PHOSPHATE  Baseline  N  Mean (SD): NR  % hyperP: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperP: NR  CA-P SUPERSAT  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N  Mean (SD): NR | CITRATE  Baseline  Mean mmol (SD):  A (n=113) 3.08 (1.54)  B (n=94) NR  % hypoCit: NR  F/u Time 1: 6 mo.  Mean mmol (SD):  A (n=113) 2.99 (1.43)  B (n=94) NR  % hypoCit: NR  SODIUM  Baseline  N  Mean (SD): NR  % hyperNa: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperNa: NR  MAGNESIUM  Baseline  Mean mmol (SD):  A (n=113) 4.13 (1.44)  B (n=94) NR  % hypoMg: NR  F/u Time 1: 6 mo.  Mean mmol (SD):  A (n=113) 4.78 (1.94) [p<0.01]  B (n=94) NR  % hypoMg: NR | POTASSIUM  Baseline  N  Mean (SD): NR  % hypoK: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoK: NR  VOLUME  Baseline  Mean mL (SD):  A (n=113) 2354 (645)  B (n=94) NR  F/u Time 1: 6 mo.  Mean mL (SD):  A (n=113) 2342 (693)  B (n=94) NR  pH  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N Mean (SD): NR |
| Borghi, 19966 | A. Achieve urine volume >2 liters/day.  Urine volume to be measured every 2 months to ensure high volume (n=110)  B. No treatment (n=110)  24 hour collection  Study reported any data on participant compliance/adherence: No | CALCIUM  Baseline  Mean mg (SD):  A (n=110) 244 (109)  B (n=110) 266 (112)  % hyperCa: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperCa: NR  OXALATE  Baseline  Mean mg (SD):  A (n=110) 28.7 (9.5)  B (n=110) 28.6 (10.5)  % hyperOx: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperOx: NR  CA-OX PRODUCT  Baseline  N  Mean (SD): NR  Time 1: mo.  N  Mean (SD): NR  CA-OX SUPERSAT  Baseline  Mean (SD):  A (n=110) 10.1 (4.9)  B (n=110) 11.2 (5.3)  Time 1: 12 mo.  Mean (SD):  A (n=110) 5.2 (3.2) [p<0.0001]  B (n=110) 8.1 (5.2) | URIC ACID  Baseline  Mean mg (SD):  A (n=110) 588 (183)  B (n=110) 572 (211)  % hyperUA: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperUA: NR  URIC-A SUPERSAT  Baseline  Mean (SD):  A (n=110) 3.48 (2.95)  B (n=110) 3.64 (3.08)  F/u Time 1: 12 mo.  Mean (SD):  A (n=110) 1.72 (1.49) [p<0.001]  B (n=110) 2.66 (2.3) | PHOSPHATE  Baseline  N  Mean mg (SD): NR  A (n=110) 707 (250)  B (n=110) 670 (255)  % hyperP: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperP: NR  CA-P SUPERSAT  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N  Mean (SD): NR | CITRATE  Baseline  Mean mg (SD):  A (n=110) 512 (207)  B (n=110) 530 (259)  % hypoCit: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoCit: NR  SODIUM  Baseline  Mean mmol (SD):  A (n=110) 158 (52)  B (n=110) 162 (55)  % hyperNa: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperNa: NR  MAGNESIUM  Baseline  Mean mg (SD):  A (n=110) 85 (31)  B (n=110) 88 (33)  % hypoMg: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoMg: NR | POTASSIUM  Baseline  Mean mmol (SD):  A (n=110) 47 (14)  B (n=110) 47 (15)  % hypoK: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoK: NR  VOLUME  Baseline  Mean mL (SD):  A (n=110) 1068 (240)  B (n=110) 1008 (231)  F/u Time 1: mo.  Mean mL (SD):  A (n=110) 2127 (546) [p<0.0001]  B (n=110) 1258 (292)  pH  Baseline  N  Mean (SD):  A (n=110) 5.91 (0.49)  B (n=110) 5.90 (0.5)  F/u Time 1: mo.  N Mean (SD): NR |
| Hiatt, 19967 | A. Low animal protein and high fiber diet:  Decrease intake of animal protein (56 to 64 gm/day) and of purine containing foods (75 mg/day); increase fruits,vegetables, and whole grains; and add 1/4 cup bran/day (n= 51, 50 included in study, 1 excluded post randomization)  B. Standard advice  instructed on fluid intake and adequate calcium intake  (n=51, 49 included in study 2 excluded post randomization)  24 hour collection  Study reported any data on participant compliance/adherence: No | CALCIUM  Baseline  Mean mmol (SD):  A (n=42) 5.21 (0.36)  B (n=37) 5.24 (0.49)  % hyperCa: NR  F/u Time 1: 6 mo.  Mean mmol (SD):  A (n=31) 5.5  B (n=28) 5.9  % hyperCa: NR  OXALATE  Baseline  Mean mmol (SD):  A (n=41) 445 (32)  B (n=35) 474 (43)  % hyperOx: NR  F/u Time 1: 6 mo.  Mean mmol (SD):  A (n=32) 470  B (n=28) 620  % hyperOx: NR  CA-OX PRODUCT  Baseline  N  Mean (SD): NR  Time 1: mo.  N  Mean (SD): NR  CA-OX SUPERSAT  Baseline  N  Mean (SD): NR  Time 1: mo.  N  Mean (SD): NR | URIC ACID  Baseline  Mean mmol (SD):  A (n=43) 4.36 (0.22)  B (n=37) 4.40 (0.29)  % hyperUA: NR  F/u Time 1: 6 mo.  Mean mmol (SD):  A (n=32) 3.8  B (n=28) 4.2  % hyperUA: NR  URIC-A SUPERSAT  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N  Mean (SD): NR | PHOSPHATE  Baseline  N  Mean (SD): NR  % hyperP: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperP: NR  CA-P SUPERSAT  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N  Mean (SD): NR | CITRATE  Baseline  N  Mean (SD): NR  % hypoCit: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoCit: NR  SODIUM  Baseline  N  Mean (SD): NR  % hyperNa: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hyperNa: NR  MAGNESIUM  Baseline  N  Mean (SD): NR  % hypoMg: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoMg: NR | POTASSIUM  Baseline  N  Mean (SD): NR  % hypoK: NR  F/u Time 1: mo.  N  Mean (SD): NR  % hypoK: NR  VOLUME  Baseline  Mean mL (SD):  A (n=43) 1510 (111)  B (n=37) 1459 (105)  F/u Time 1: 6 mo.  Mean mL (SD):  A (n=29) 1800  B (n=32) 1950  pH  Baseline  N  Mean (SD): NR  F/u Time 1: mo.  N Mean (SD): NR |

**Abbreviation:** NR = not reported