1. Serum minerals: Na: 139 mmol/l, K: 3.0 mmol/l, Cl: 111 mmol/l,

ABR – venous blood: pH: 7.238, pCO2: 5,15, Act. bicarbonate: 15.9, Stand.bicarbonate: 15.4, Base excess: -10.6, pO2: 3,9, sat.O2: 55.3, tot.CO2: 14.7,

Urine pH: 5.8

**Proximal renal tubular acidosis or type II (urine pH is acidic, which can bet he case in proximal tubular acidosis)**

1. 25th March: Na: 131 mmol/l, K: 4.3 mmol/l, Cl: 98 mmol/l, urea 6.8 mmol/l, creatinine 64 µmol/l, hemoglobin 112 g/l

10th April: Na: 120 mmol/l, K: 7.3 mmol/l, Cl: 81 mmol/l, urea 54 mmol/l, creatinine 483 µmol/l, hemoglobin 151 g/l, total protein 94 g/l

**Acute renal failure because of dehydration (hemoconcentration). Hyponatremia suggests sodium losses, most probably intestinal.**

1. Blood: Na 112 mmol/l, K 3.7 mmol/l, Cl 73 mmol/l, urea 0.4 mmol/l, osmolality 236 mosmol/kg H2O

Urine: Na 6 mmol/l (18 mmol/24 h), K 5.3 mmol/l (15.9 mmol/24 h), urea 13.7 mmol/l (41 mmol/24 h), osmolality 53 mosmol/kg H2O

**Hyponatremia due to low intake of salt and protein and high intake of water. Even with maximal dilution, kidneys are not able to excrete excess water because of lack of osmotically active substances.**

1. Urea: 25.2 mmol/l, creat.: 494 umol/l, uric acid: 644 umol/l,

 ANAb IgG 1:80: slightly +, Anti-ANCA-MPO: 303.3, Anti-ANCA-PR3: <2, Anti-GBM: negat

**Renal failure most probable due to ANCA vasculitis**

1. Urea: 4.2 mmol/l, creat.: 73 umol/l, Albumin: 14.2 g/l, total protein: 49.7 g/l, Chol: 7.67 mmol/l, Triglycerides: 1.19 g/l, Protein in urine: 3.45 g/l, protein/creatinine in urine: 0.379 mg/mmol

anti-PLA2R ELISA: 29.6, THSD7A: negat.

**Nephrotic syndrome due to primary memranous nephropathy (antiPLA2R positive)**

1. Urea: 8.8 mmol/, creat.: 91 umol/l, Albumin: 13.5 g/l, total protein: 36.3 g/l, Chol: 7.65 mmol/l, triglycerides: 2.81 g/l, urinary protein: 24.1 g/l, protein/creatinine in urine: 1188 mg/mmol

Urinalysis:

 pH: 6.5, protein: 6,00 g/l, Glucose: neg, ketone bodies: neg, Bilirubin: neg, Urobilinogen: neg, Erytrocytes: 150, Leukocytes: 25, Nitrites: neg

Urinary sediment:

ERY: 502, LEUCO: 195, Epithelial cells: 44, hyaline casts.: 6, granulated casts.: 3, Bacteria: neg.

 ANAb IgG 1:80: poz.homogenous., ANAb IgG 1:640: slightly+, Anti-dsDNA CLIA: >650,0, Anti-nukleosomes: >200,0 Anti C1q: 26,9

**Nephrotic syndrome in lupus nephritis (most probable Type 5 – membranous nephropathy.**

**Remark: leucotyuria is usually not part of the clinical pisture and other cause might be present**

7. Urea: 6.6 mmol/l, creat.: 84 umol/l, uric acid.: 321 umol/l

 IgG: 9,61 g/l [normal 7...16], IgA: 5,77 g/l [0,7...4], IgM: 1,01 g/l [0,4...2,3], IgE: 166 mg/l [0...100]

urinalysis:

 pH: 6, protein: 0.1, Glucose: neg, Ketone bodies: neg, Bilirubin: neg, Urobilinogen: neg, Erytrocytes: 100, Leukocytes: neg, Nitrites: neg

Urinary sediment: ERY: 103, LEUCO: 8, crystals: 6

**Microscopic hematuria without proteinuria and normal renal function. Probably IgA nephropathy. High IgA suggests the diagnosis but does not confirm it.**

8. Urea: 6.2 mmol/l, Creat.: 128 umol/l, CRP: 180.8

urinalysis: pH: 5.5, Protein.: 3,00, Glucose: neg, ketone bodies: neg, Bilirubin: neg, Urobilinogen: neg, Erytrocytes: 200, Leucocytes: 500, Nitrites: neg.

Urinary sediment: ERY: 1064, LEUCO: 6889, Epithelial cells: 14,

Blood count: leu: 14.07, Ery: 3.34, HB: 99, HTC: 0.306, MCV: 91.6, MCH: 29.6, MCHC: 324, RDW: 12.8, Plt: 319,

Diff. leucocyte count relative: Ne: 85.7, Ly: 6.8, Mo: 7.0, Eo: 0.4, Ba: 0.1

Diff. leucocyte count absolute: Ne abs.: 12.05, Ly abs.: 0.96, Mo abs.: 0.98, Eo abs.: 0.06, Ba abs.: 0.02

**Acute pyelonephritis**

9. Na: 140 mmol/l, K: 2.8 mmol/l, Cl: 94 mmol/l, Ca: 2.39 mmol/l, P: 0,97 mmol/l, Mg: 0.56

 Urea: 5,1 mmol/l, Creat.: 85 umol/l, uric acid.: 397 umol/l

ABR – venous blood: pH: 7.432, pCO2: 6,27, Act. bicarbonate: 30.8, Stand. bicarbonate: 29.2, Base excess: 5.7, pO2: 7.8, sat. O2: 88.5, tot.CO2: 25.1,

urine: volume: 1900, Na output/24 hrs: 298.3 mmol, K output 24 hrs: 106.8 mmol, Ca output/24 hrs: 0.59 mmol,

**Gittelman syndrome – hypokalemia, metabolic alcalosis, hypomagnesemia, low calcium output**

**Hypokalemia due to urinary losses is a sufficient diagnosis.**

10. 

**Polycystosis of liver and kidneys**