

# RENAL MEDICINE, ELECTROLYTES, ACID BASE BALANCE

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## 1. RENAL MEDICINE

1. Two weeks after recovery from a severe bout of pharyngitis, an 11 year old girl is seen because of the acute onset of periorbital edema, hematuria, malaise, nausea and headache. Which of the following findings is expected?

- a. Hypotension
- b. Increased antistreptolysin O titer
- c. Marked hypoalbuminemia
- d. Polyuria
- e. Positive urine cultures for  $\beta$ -hemolytic streptococci

2. A 26 years old man presents with hematuria. His wife states that he has had a sore throat for the past 2 days and that he has had hematuria a few times in the past, also concomitantly with a sore throat. She states that his urine usually returns to a normal clear yellow color after a few days. Which of the following is the most likely diagnosis?

- a. Alport syndrome
- b. Goodpasture syndrome
- c. IgA nephropathy
- d. Membranoproliferative glomerulonephritis
- e. Poststreptococcal glomerulonephritis

3. In a patient with chronic renal failure, which of the following is the most important contributor of renal osteodystrophy?

- a. Impaired renal production of 1,25 dihydroxy vitiman D3
- b. Hypocalcemia
- c. Hypophosphatemia
- d. Loss of vitamin D and calcium via dialysis
- e. The use of calcitriol

4. A 12 year old boy presents with two weeks history of pain in the knee joints associated with fever, colicky pain in the abdomen and a rash over the buttock area. Urinalysis showed proteinuria and haematuria.

The most likely diagnosis is:

- a. Post-streptococcal glomerulonephritis
- b. Henoch-schonlein purpura
- c. Minimal change disease with peritonitis
- d. Urinary Tuberculosis
- e. Sub-acute bacterial endocarditis

5. A 23 year old girl presented with left loin pain and haematuria. Her mother was hypertensive and died of a stroke at aged 54. On examination she had palpable kidneys. Blood pressure was 170/100. Serum creatinine was 23 mg/dl. The most likely diagnosis is;

- a. Adult Polycystic Kidney Disease
- b. Left ureteric stone
- c. Acute nephritis
- d. IgA nephropathy
- e. Alport's syndrome

6. Which of the following is the best investigation of choice for screening the relatives of patient with adult polycystic kidney disease.

- a. Serum creatinine
- b. Urea
- c. Ultra sound abdomen
- d. CT abdomen
- e. X ray KUB

7. All are features of Nephritic syndrome EXCEPT

- a. Hematuria b. Hyper triglyceridemia
- c. Red cell cast d. Hypertension
- e. Periorbital edema

d. Renal artery stenosis

e. Aortic stenosis

8. All are indications for renal biopsy EXCEPT

- a. Unexplained acute renal failure
- b. Diabetic nephropathy
- c. Good pasture syndrome
- d. Wagner's syndrome
- e. SLE nephritis

12. A 13 years old boy presented with generalized body swelling. His labs are as follows HB 12gm/dl TLC 5400, Urine R/E(albumin +++, U/S abdomen normal, Triglyceride 700, serum albumin 2.1 gm. What is the most probable diagnosis?

- a. IgA nephropathy
- b. Minimal change disease
- c. Diabetic nephropathy
- d: Post streptococcal glomerulonephritis
- e. Membranous nephropathy

9. ACE inhibitors would be expected to slow the progression of renal insufficiency in which of the following conditions?

- a. Amphotericin induced nephropathy
- b. Analgesic nephropathy
- c. Autosomal dominant polycystic kidney disease
- d. Chronic glomerulonephritis with  $> 1 \text{ g/d}$  proteinuria
- e. Contrast dye-associated nephropathy

Q.13. The following is the most pathognomonic feature of glomerulonephritis on urine microscopy.

- a. WBC
- b. RBC
- c. Granular cast
- d. Hyaline cast
- e. Bile Pigments

14. The following is not a Contraindication to closed renal biopsy

- a. Deranged Coagulation Profile
- b. Thrombocytopenia
- c. Hematuria
- d Uncontrolled Hypertension
- e. Solitary Kidney

Q.15. The following is not a feature of nephrotic syndrome.

- a. Proteinuria  $> 3.5 \text{ g}$
- b. Hypercholesterolemia
- c. Reduced Serum Albumin
- d. Bleeding Diathesis
- e. Hyper coagulopathy

16. Which of the following casts found on routine urine microscopy are suggestive of glomerulonephritis?

- a. White cell cast
- b. Hyaline cast
- c. Waxy cast
- d. Red cell cast
- e. Crystal cast

11. A 30 year old patient presented with right side weakness. CT brain revealed S.A.H. Systemic examination revealed masses in flanks. BP = 190/120 Hb = 17gm / dL TLC=5600, Creatinine 3.2, ECG= LVH, LFTs Normal, Urinary VMA normal diagnosis?

- a. Pheochromocytoma
- b. Adrenal hyperplasia
- c. Adult poly cystic disease

17. A 16 year old boy is referred from department of ENT with deafness and hernuria. His father died due to ESRD. What is the most likely diagnosis?

- a. Minimal change disease
- b. Polycystic kidney disease
- c. Post streptococcal glomerulonephritis
- d. IgA nephropathy
- e. Alport's syndrome

18. Which of the following is investigation of first choice for a 15 year old girl with fever and dysuria?

- a. Ultrasound pelvis
- b. Urine R/E
- c. Peripheral smear
- d. Blood culture
- e. Intravenous urography

19. Thiazide diuretics act through effect on which site of the kidney?

- a. Cortical collection ducts
- b. Early distal tubule
- c. Late distal tubule
- d. Proximal tubule
- e. Thick ascending limb (loop of Henle).

20. A 15 years old student presented with generalized body swelling. Which of the following is least consistent with nephrotic syndrome?

- a. Hematuria
- b. Low serum albumin
- c. >3gm proteinuria/24hour
- d. High serum cholesterol
- e. Fat-bodies in urine

21. A 60 Years old man is on dialysis due to polycystic kidney disease, was referred for medical checkup. Which of the following is least associated with his disease?

- a. Mitral regurgitation
- b. Sub arachnoid hemorrhage.
- c. Mitral stenosis
- d. Aortic regurgitation
- e. Circle of villus aneurysm

22. A 33 years old deaf man has presented with a family history of renal failure. Which of following match with his diagnosis?

- a. Good Pasteur syndrome
- b. Alports syndrome
- c. IgA nephropathy
- d. Churg strauss syndrome
- e. Nephritic syndrome

23. A 10 year female presented with periorbital puffiness especially after getting up from sleep. She has ascites and pedal edema. Urine R/E shows 4+ proteinuria with no RBC cast. What is the likely diagnosis out of the following?

- a. SAIDH
- b. Nephritic Syndrome
- c. Nephrotic Syndrome
- d. Acute Renal Failure
- e. Congestive Cardiac Failure

24. A 10 years old boy presents with severe proteinuria, hypoalbuminemia, generalized edema and hyperlipidemia. The patient improves on an empiric trial of corticosteroids with complete resolution of proteinuria. Which of the following is the most likely diagnosis?

- a. Diabetic nephropathy
- b. Focal segmental glomerulosclerosis
- c. Lupus nephropathy
- d. Membranous glomerulosclerosis
- e. Minimal change disease

25. A 5 years old boy diagnosed with poststreptococcal glomerulonephritis was admitted to the hospital several weeks ago. Over the last few weeks, his clinical state has not improved. Severe Oliguria has developed, his serum creatinine has continued to rise and his glomerular filtration rate has decreased by 50%, since his admission to the hospital. Which of the following is the most likely diagnosis?

- a. Alport syndrome
- b. Membranoproliferative glomerulonephritis

- c. Membranous glomerulonephritis
- d. Rapidly progressive glomerulonephritis
- e. Renal papillary necrosis

26. A 10 year female presented with periorbital puffiness especially after getting up from sleep. She has ascites and pedal edema. Urine R/E shows 4+ proteinuria with no RBC cast. What is the diagnosis?

- a. SAIDH
- b. Nephritic Syndrome
- c. Nephrotic Syndrome
- d. Acute Renal Failure
- e. Congestive Cardiac Failure

27. A 28-year-old man has sudden onset of shortness of breath and right-sided pleuritic chest pain. He has had the nephrotic syndrome for two years, and biopsy-proven membranous glomerulonephritis that failed to respond to prednisone. On physical examination he is tachypneic and in moderate distress. He has 3+ pitting edema of the lower extremities. Roentgenogram of the chest is normal. Arterial blood gases include a PO<sub>2</sub> of 62 mm Hg and a PCO<sub>2</sub> of 22 mm Hg. Electrolytes are normal. Which one of the following would be appropriate to perform at this time?

- a. Excretory urogram of
- b. Renal venography
- c. Biopsy of the lung
- d. Repeat kidney biopsy
- e. None of the above

28. A 49-year-old woman with known polycystic renal disease and a serum creatinine of 3.0 mg/dl comes to the emergency room because of abdominal and flank pain. She states that she noted some blood-tinged urine the preceding day. Physical examination shows blood pressure of 180/105 mm Hg, pulse of 92 per minute, and temperature of 38°C. There is no orthostasis. Large bilateral upper quadrant masses are palpated; the right is somewhat tender. Bowel sounds are normal. A

plain film of the abdomen reveals large upper quadrant masses bilaterally. An abdominal sonogram shows large polycystic kidneys with multiple overlapping echoes. A few areas in the upper pole of the right kidney have complex echoes. No solid masses are seen. Urinalysis shows 1+ protein, RBC's >100/hpf, and WBC's 5-10/hpf. Which of the following is the most likely cause of the patient's condition?

- a. Renal infarction
- b. Urinary infection
- c. Renal cell carcinoma
- d. Hemorrhage into a renal cyst
- e. Arteriovenous malformation of the kidney

29. A 45yr old man who has a 10 year history of insulin- dependent diabetes comes to the emergency room because of fever, chills, and flank pain radiating to the right lower quadrant. He reports mild feverishness for about one day, with the sudden onset of the flank and abdominal pain over the last two hours. He believes he passed some solid material in the urine earlier in the day but did not collect it. Physical examination shows an ill- appearing man; temperature is 39°C. There is right costo-vertebral angle tenderness as well as deep right upper quadrant tenderness. Laboratory studies show:

Electrolytes normal

Blood urea nitrogen 34 mg/dl

Serum creatinine 1.0 mg/dl

White blood cells 13,500/mm<sup>3</sup>

Hematocrit 41%

Urinalysis shows pH 6.0, >100 WBC's/hpf, and 50 RBC's/hpf; some white blood cell clumps are seen, along with a large amount of debris. A renal ultrasound suggests mild dilatation of the right renal pelvis and upper right ureter. The kidney size is 12 cm bilaterally. A radiograph of the kidney, ureter, and bladder (KUB) shows a nonspecific gas pattern and a radiopaque mass at the right ureteropelvic

junction. Which of the following is the most likely diagnosis?

- a. Renal abscess
- b. Uncomplicated pyelonephritis
- c. A uric acid stone with infection
- d. A calcium oxalate stone with infection
- e. Renal papillary necrosis with infection

30. A 22 year old woman presents with fever, malaise, generalized arthralgias and a skin rash over the nose and malar eminences. Which one of the following possible findings has the greatest significance in the overall prognosis for the patient?

- a. Atypical verrucous vegetations of the mitral valve
- b. Glomerular subendothelial immune complex deposition
- c. Immune complexes at the dermal epidermal junction in skin
- d. Perivascular fibrosis in the spleen
- e. Pleuritis

31. Two weeks after recovery from a severe bout of pharyngitis, an 11 year old girl is seen because of the acute onset of periorbital edema, hematuria, malaise, nausea and headache. Which of the following findings is expected?

- a. Hypotension
- b. Increased antistreptolysin O titer
- c. Marked hypoalbuminemia
- d. Polyuria
- e. Positive urine cultures for  $\beta$ -hemolytic streptococci

## 2. ELECTROLYTE DISTURBANCES

1. A 54 year old woman has presented with episodes of abdominal ache, vomiting and postural hypotension. She also has a dark pigmentation of her skin. A diagnosis of Addison's disease was made. What is the most likely electrolyte abnormality expected in this patient?

- a. High  $\text{Na}^+$ , Low  $\text{K}^+$
- b. Low  $\text{Na}^+$ , High  $\text{K}^+$
- c. Low  $\text{Na}^+$ , Low  $\text{K}^+$
- d. High  $\text{Na}^+$ , High  $\text{K}^+$
- e. Low  $\text{Na}^+$ , Normal  $\text{K}^+$

2. A 22 years old woman goes to the emergency department because she feels very weak and is having muscle cramping and fasciculations. Blood chemistry studies demonstrate plasma potassium of 1.5mEq/L on questioning, she admits to chronic use of laxatives and diuretics to control her weight.

Which of the following ECG changes would be most characteristics of changes related to her  $\text{K}^+$  level?

- a. Increased u wave amplitude
- b. Prolongation of the P wave
- c. Shortening of the QT interval
- d. Tall, symmetric, peaked T waves
- e. Widening of the QRS complex

3. Which of the following is the most likely electrolytes imbalance for a 25 year old man who is having weakness and difficulty in getting up from bed early in morning? He had similar episodes after having rice & sweets in dinner.

- a. High calcium
- b. Low Potassium
- c. Low zinc
- d. High sodium
- e. High magnesium

4. Which of the following is the emergency treatment of choice for a 55 year old diabetic ESRD patient who is having shortness of breath and tall-T waves on ECG?

- a. Glucose & insulin
- b. Spironolactone & Salbutamol
- c. spironolactone & salbutamol
- d. Renal transplantation
- e. Salbutamol & normal saline

5. A 45 years old woman presents with thirst, abdominal pain and history of renal stones. What electrolyte disturbance is present?

- a. Hypocalcemia
- b. Zinc deficiency
- c. Hyponatremia
- d. Hypercalcemia
- e. Hyperkalaemia

6. A 40-year-old woman treated with spironolactone and lisinopril for heart failure presents with bradycardia. ECG shows tall, tented 't' waves. What electrolyte disturbance do you expect?

- a. Hypokalaemia
- b. Hyperkalaemia
- c. Hyponatremia
- d. Hypercalcemia
- e. Hypernatremia

7. A 30-year-old woman presents with tetany, perioral paraesthesia and carpopedal spasm after thyroid surgery. What electrolyte disturbance is present?

- a. Hypocalcemia
- b. Zinc Deficiency
- c. Hyponatremia
- d. Hypercalcemia
- e. Hyperkalaemia

8. A 28-year-old woman with a 15-year history of insulin-dependent diabetes is brought to the emergency room in a disoriented state. She has a two-day history of upper respiratory infection and has been vomiting for the past day. Laboratory tests include:

**Serum electrolytes**

Sodium 100 mEq/L

Potassium 6.0 mEq/L

Chloride 74 mEq/L

Bicarbonate 6 mEq/L

Serum glucose 540 mg/dl

Blood urea nitrogen 88 mg/dl

Serum creatinine 3.8 mg/dl

Plasma osmolality 368 mOsm/kg

Plasma ketones positive at a 1:32 dilution

The laboratory notes that the patient's plasma is lipemic.

**Arterial blood studies**

Pco<sub>2</sub> 21 mm Hg PH 7.04

Urine 55 mEq/L Sodium 4+

Glucose 4.9

What is the major mechanism contributing to this patient's hyponatremia?

- a. Osmotic diuresis
- b. Impaired free water clearance
- c. Increased distal delivery of an impermeant anion
- d. Laboratory artifact in the measurement of serum sodium
- e. ADH effect based on a physiologic nonosmotic stimulus

9. A 66-year-old man with recently diagnosed oat cell carcinoma of the lung, without apparent central nervous system metastases, comes to the hospital with confusion. There is no history of vomiting and he takes no medicine. Physical examination reveals obtundation without any localizing findings. There is no clinical evidence of extracellular fluid (ECF) depletion. Laboratory tests include:

Serum electrolytes 108 mEq/L

Sodium 4.4 mEq/L

Potassium 82 mEq/L

Chloride 20 mEq/L

Bicarbonate 6 mg/dl

Blood urea nitrogen 0.7 mg/dl

Serum creatinine 3.8 mg/dl

Serum uric acid 50 mEq/L

Urine 12 mEq/L

Sodium 5.0

PH 860 mOsm/kg

**Osmolality**

What is the major mechanism contributing to this patient's hyponatremia?

- a. Osmotic diuresis
- b. Impaired free water clearance
- c. Laboratory artifact in the measurement of serum sodium
- d. ADH effect based on a physiologic nonosmotic stimulus
- e. Decreased total body water with a larger decrease in total body sodium

**3. BLOOD PH ABNORMALITIES**

1. Which of the following is the most likely electrolytes imbalance for a 25 year old type-1 diabetic who presented with shortness of breath and uncontrolled diabetes with normal echocardiography and X-ray chest?

- Respiratory acidosis
- Metabolic alkalosis
- Respiratory alkalosis
- Metabolic acidosis
- None of the above

2. A 43 years old patient of CRF presented with shortness of breath and nausea and vomiting having deranged renal functions. What is the most likely acid-base pattern expected in this patient?

- Metabolic alkalosis
- Respiratory acidosis
- Metabolic acidosis
- Respiratory alkalosis
- Compensated respiratory alkalosis

3. For which of the following causes of metabolic alkalosis is determination of urine chloride concentration significant?

- Bartter's syndrome
- Diuretic abuse
- Surreptitious vomiting
- Primary hyperaldosteronism
- Cushing's syndrome

**4. UREMIA / AKI**

1. A 40 years old male with pre-existing glomerulonephritis having proteinuria and hematuria suddenly deteriorates and presents with oliguria and serum  $K+ = 7.8 \text{ mmol/L}$ , Urea =  $13 \text{ mmol/L}$ , creatinine =  $342 \text{ mmol/L}$  GFR  $19 \text{ mL/h}$ . The best management would be?

- Calcium supplement
- Calcium resonate enema 30g
- 10 units insulin with 50% dextrose
- Nebulized salbutamol
- 10 ml of 10% calcium gluconate

2. A 47 Year Old male admitted for workup of mediastinal mass, developed rash, Decreasing Urinary Jutput with raising Urea few days after extensive investigation for diagnosis and staging. What is the most likely cause of his recent problem?

- Bladder out flow obstruction
- Radio Contrast Associated Nephritis
- Membranous Nephropathy
- Pyelonephritis
- Metastasis to the Kidney

3. A 30 years old female received from labour room after delivering a baby with post partum hemorrhage with deranged renal functions (Creatinine 16, urea 300 gm/dl.. Her labs are as follows: HB 12 gm/dl, TL.C 25000(neutrophils 70%, Paltelets 90,000, PT/APTT prolonged. What is the likely cause of renal failure?

- Interstitial nephritis
- Acute tubular necrosis
- Obstructive nephropathy
- Crescentic nephropathy
- Halothane toxicity

4. A 47 Year Old male admitted for workup of mediastinal mass, developed rash, Decreasing Urinary Output with raising Urea and Creatinine few days after CT Scan Thorax. What is the most likely cause of his recent problem?

- Radiations
- Radio Contrast associated nephritis
- Membrane neuropathy
- Polycystic Kidney Disease
- Metastasis of the kidney

**5. CKD**

1. A 45 years old patient on hemodialysis for one week has noted that his blood pressure is more difficult to control. Her reports good compliance with his medications, which include erythropoietin, ferrous, sulfate, vancomycin, and vitamin D. his blood pressure is 180/99 mmHg. Which of the

following is the most likely cause for the worsening control of his blood pressure?

- a. Erythropoietin
- b. Ferrous sulfate
- c. Vancomycin
- d. Vitamin D
- e. Uremia

2. A 65 years old woman on hemodialysis for chronic renal failure requires an urgent dental extraction for an abscessed tooth. Of the following, the most appropriate agent to administer to reduce the risk of significant bleeding would be:

- a. Aminocaproic acid
- b. Conjugated estrogen
- c. Desmopressin
- d. Erythropoietin
- e. Fresh frozen plasma

3. A 50 years old male with end stage renal disease presented with generalized body pains. His labs are as follow. HB 12gm/dl, serum calcium low, phosphate high, alkaline phosphatase raised. What is the most effective treatment for his body pains?

- a. Paracetamol
- b. NSAIDs
- c. Opioids
- d. Vitamin D
- e. One alpha capidol

4. A 50 years old male with end stage renal disease presented with fatigue, shortness of breath on exertion and progressive pallor. His labs are as follow: HB 7 gm/dl, TLC 7,000, serum ferritin is normal. What is the most effective treatment for his anemia?

- a. Iron (intravenous)
- b. Folic acid
- c. Erythropoietin
- d. Iron (Oral)
- e. Vitamin B12

5. Which of the following is the most suitable treatment for an anemic chronic kidney disease

patient with Hb of 8gm/dl, MCV=80f1 & serum ferritin of 800?

- a. Intravenous iron
- b. Folic acid
- c. Vitamin-B12
- d. Erythropoietin
- e. Albendazole

## 6. HEMATURIA / UTI

1. An 18 year old woman presents with suprapubic pain, urinary frequency, dysuria and hematuria for the past hour. Urine tests show the presence of pyuria but no white cell casts. Physical examination is remarkable only for suprapubic tenderness on palpation. Which of the following is the most likely diagnosis?

- a. Acute pyelonephritis
- b. Chronic Pyelonephritis
- c. Cystitis
- d. Fanconi Syndrome
- e. Nephrocalcinosis

2. A 55 years old male presents with dull loin pain, hematuria, weight loss and palpable mass in right flank. What is the most probable diagnosis?

- a. Benign Prostatic Hyperplasia
- b. Chronic kidney disease
- c. Renal Artery Stenosis
- d. Renal cell Carcinoma
- e. Polycystic kidney disease

3. A 20 years old student presented with blood in urine. Recently he had sore throat. Which of the following is most likely to suggest a non-glomerular source for his blood in urine?

- a. Hematuria
- b. Low serum albumin
- c. >3gm proteinuria/24hour
- d. High serum cholesterol
- e. Fat-bodies in urine

4. A 28 year old woman presents with fever, dysuria, urinary frequency and flank tenderness. The urine contained numerous neutrophils and many white cell casts. Urine protein was moderately increased.

5

Urine culture revealed bacteria. The most likely causative organism is

- Escherichia coli
- Haemophilus influenzae
- Neisseria gonorrhoeae
- Proteus vulgaris
- Pseudomonas aeruginosa

5. A 78 year old man with long-standing prostatic nodular hyperplasia dies of a stroke. At autopsy, both kidneys demonstrate coarse asymmetric renal corticomedullary scarring, deformity of the renal pelvis and calyces, interstitial fibrosis and atrophic tubules containing eosinophilic proteinaceous casts.

These findings are most suggestive of

- Berger disease
- Chronic analgesic nephritis
- Chronic pyelonephritis
- Membranoproliferative glomerulonephritis
- Renal papillary necrosis

#### 7. MIX

1. A 50 year old gentleman was started on ibuprofen and allopurinol for gout.. He had received a renal transplant 3 years ago and had been taking steroids, cyclosporine and azathioprine. One month later, he presented with fatigue and was found to have severe pancytopenia. The most likely cause for his pancytopenia is;

- Azathioprin toxicity
- Cyclosporin toxicity
- Hypersplenism
- Myelo-fibrosis
- Pernicious Anaemia

2. A 40 years old man is brought to the emergency room by his friends. Apparently, he has ingested some unknown medication in a suicide attempt. The patient is disoriented to time. His temperature is 39.3 C (103 F., blood pressure is 120/85 mmHg, pulse is 100/min and irregular, and respirations are 22/min. the skin is flushed and dry. Dilated pupils and muscle twitching are also noted on physical

examinations. ECG reveals prolonged QRS complexes. Hepatic transaminases are normal and blood gas analysis shows a normal pH. These findings are most likely due to intoxication by which of the following substances?

- Acetaminophen
- Alcohol
- Benzodiazepines
- Monoamine oxidase (MAO. inhibitors)
- Tricyclic antidepressants

3. A 20 years old male received from jail with history of shortness of breath and vomiting. His examination shows multiple bruises on body. His labs are as follows: HB 12 gm/dl, TLC 6,000, Platelets 300,000, creatinine 16, CPK 1500, Echocardiography is normal. What is the most probable diagnosis?

- Chronic renal failure
- Left-ventricular failure
- Hemolytic uraemic syndrome
- DIC
- Rhabdomyolysis

4. A 30 year old man has difficulty in opening the mouth. Two days back he acquired wound on left foot during road side motor cycle accident. Which of the following is the most likely organism?

- E.Coli
- Staphylococcus
- Clostridium botulinum
- Actinomyces
- Clostridium tetani

5. A 60 year old male presented with urgency, frequency, hesitancy and burning micturition. He is also complaining of post void dribbling with poor stream. What is the diagnosis?

- BPH (Benign Prostatic Hyperplasia)
- Chronic Kidney Disease
- Nephrotic Syndrome
- Renal Cell Carcinom
- Diuretic Therapy

6. A 20 year old boy develops polyuria and polydipsia after head injury. What is the most likely diagnosis out of the following options?

- a. Central diabetes insipidus
- b. Nephrogenic diabetes insipidus
- c. Primary polydipsia
- d. Osmotic diuresis
- e. Hypercalcemia

7. A 60-year-old man presents with headaches, blurred vision and itching over the whole body (the last after a hot bath.. Positive findings on examination include plethoric facies and moderate splenomegaly, Hapmatocrit: 65%  
a. Hodgkins Lymphoma  
b. Essential Thrombocytosis  
c. Waldenstrom's Macroglobulinemia  
d. Myelofibrosis  
e. Polycythemia Rubra Vera

8. A 45-year-old man presents with fever, weight loss, tiredness and gout. On examination there is splenomegaly. White blood cell count is  $112 \times 10^9/l$ . The Philadelphia chromosome is detected.  
a. Chronic Lymphocytic Leukemia  
b. Chronic Myeloid Leukemia  
c. Hodgkin's lymphoma  
d. Essential Thrombocytosis  
e. Hereditary Spherocytosis

9. A 25-year-old man presents with enlarged painless lymph nodes in the neck. His peripheral blood film shows Reed-Sternberg cells. What is the diagnosis?  
a. Non-Hodgkins Lymphoma  
b. Chronic Myeloid Leukemia  
c. Hodgkin's lymphoma  
d. Paroxysmal Nocturnal Hemoglobinuria  
e. Acute Leukemia

10. A 23-year-old man presents with a week history of fever and sore throat. He developed a macular rash after being prescribed ampicillin by his GP. On

examination he has enlarged posterior cervical nodes, palatal petechiae and splenomegaly.

- a. Malaria
- b. Infectious Mononucleosis
- c. Infective Endocarditis
- d. Enteric Fever
- e. Rheumatic Fever

11. A 59-year-old male truck driver comes to the emergency room because of lethargy, nausea, and vomiting ord the preceding five days and markedly decreased urinary vol-urne. He has a history of mild hypertension treated with dietary salt restriction. For the past several months he has had urinary hesitancy and nocturia. Blood pressure is 105/60 mm Hg; pulse rate is 125 per minute. There is a 20 mm Hg orthostatic drop in blood pressure.

Physical examina- tion shows prostatic enlargement. The patient is unable to produce a urine specimen. The bladder is not distended by percussion. Plain film of the abdomen shows two renal outlines of normal size. Ultrasound examination of the kidneys shows normal renal size; there is no dilatation of the renal pelvis or ureters. Laboratory studies show:

Serum electrolytes

Sodium 132 mEq/L

Potassium 5.2 mEq/L

Chloride 90 mEq/L

Bicarbonate 22 mEq/L

Blood urea nitrogen 110 mg/dl

Serum creatinine 13 mg/dl

Calcium 8.1 mg/dl

Phosphate 6.2 mg/dl

Hemoglobin 13.5 g/dl

After rehydration with 5 liters of normal saline, the patient remains anuric. The next morning, repeat ultrasound ex- amination of the kidneys shows bilateral distention of the renal pelvis. Placement of a bladder catheter yields 2000 ml of clear urine, and urine production continues at 1000 ml per hour over the next five hours.

5 **RENAL MEDICINE**

Which of the following is most likely to explain the abnormalities of renal function seen in this patient?

- Chronic renal failure
- High circulating levels of vasopressin
- Obstructive uropathy at the level of the prostate
- Renal artery stenosis
- A toxic nephropathy

12. A 70 years old man with a mass in lung develop

Hyponatremia and increased effective circulating volume. The most likely diagnosis is:

- Nephrotic syndrome
- SIADH (syndrome of inappropriate ADH secretion)
- Renal tubular acidosis
- Renal mets from Bronchogenic carcinoma
- Lung mets from renal cell carcinoma

**ANSWER KEYS**

**1. RENAL MEDICINE**

1.B	2.C	3.A	4.B	5.A
6.C	7.B	8.B	9.C	10.C
11.C	12.B	13.B	14.C	15.D
16.D	17.E	18.B	19.D	20.A
21.C	22.B	23.C	24.E	25.D
26.C	27.B	28.D	29.E	30.B

31.B

**2. ELECTROLYTE DISTURBANCES**

1.B	2.A	3.B	4.A	5.D
6.B	7.A	8.A	9.B	

**3. BLOOD PH ABNORMALITIES**

1.D    2.C    3.C

**4. UREMIA / AKI**

1.E	2.B	3.B	4.B	
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**5. CKD**

1.A	2.C	3.E	4.C	5.D
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**6. HEMATURIA / UTI**

1.C	2.D	3.A	4.A	5.C
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**7. MIX**

1.A	2.E	3.E	4.D	5.A	6.A
7.E	8.B	9.C	10.B	11.C	12.B