

**Questions:**

## **1- Uric acid and ammonium urate stones(false answer):**

A- Form under completely different biochemical conditions

B- Uric acid stone formation is most commonly associated with low urinary pH and low urine volume rather than hyperuricosuria

C- pH for prevention of urate acid stones should be 6,2 - 6,8 for chemolytholysis 6,5 - 7,2

D- There is strong evidence for the association of hyperuricemia with stone formation

## **2- Concerning Calcium Phosphate stones (false answer):**

A- Carbon Apatite is more frequent than Brushite

B- Hydrochlorothiazide can be used to treat Carbon Apatite but not Brushite stones

C- Brushite stones occurrence is not related to UTI

D- RTA and Hyperparathyroidism can cause both Carbon apatite and Brushite stones

**3- Which of the following is NOT a cause of hypocitraturic calcium nephrolithiasis:**

A- Thiazide-induced hypocitraturia

B- Absorptive hypercalciuria

C- Distal renal tubular acidosis

D- Chronic diarrheal syndrome

**4- The primary defect in patients with absorptive hypercalciuria is considered to be (correct answer):**

A- primary hyperabsorption of intestinal calcium

B- renal leak of calcium

C- Excessive dietary intake of calcium containing foods

D- hypersecretion of PTH

**5- By order of frequency (from the most to the least frequent) the metabolic abnormalities associated with oxalate stone formation are:**

A- Hypercalcuria, Hyperuricosuria, Hyperoxaluria, Hypomagnesuria, Hypocitraturia

B- Hypercalcuria, Hyperoxaluria, Hyperuricosuria, Hypomagnesuria, Hypercitraturia

C- Hypercalcuria, Hyperoxaluria, Hyperuricosuria, Hypomagnesuria, Hypocitraturia

D- Hypercalcuria, Hyperuricosuria, Hyperoxaluria, Hypermagnesuria, Hypocitraturia

## **6- Enteric hyperoxaluria (false answer):**

A- usually present with hypocitraturia

B- Urine pH is usually high

C- Urine pH is usually low

D- Urinary calcium is usually low

E- urine volume is usually low

**7- A patient with recurrent uric acid calculi is placed on oral medical treatment and returns for follow-up 3 months later. He is noted to have significantly elevated urinary uric acid levels as compared with his first 24-hour urine collection. This finding is due to (correct answer):**

- A- Increased production of endogenous uric acid
- B- Failure to avoid high-sodium foods
- C- Increased solubility of uric acid
- D- Inhibition of xanthine oxidase.



**8- A patient with uric acid calculi is placed on alkali therapy but returns 1 year later having passed two calcium phosphate stones. A repeat 24-hour urine demonstrates a urine pH of 7.4, a urinary citrate of 450 mg/day, and a urinary uric acid of 875 mg/day. The most likely cause for recurrent stone formation is:**

- A- cessation of potassium citrate
- B- increase in saturation of oxalate
- C- excess alkalization
- D- increase in saturation of oxalate

**9- First-line medical treatment for the prevention of recurrent cystine stones would be aimed at:**

- a- binding of cystine within the intestines
- b- decreasing urinary sodium
- c- increasing the solubility of cystine
- d- urinary acidification

**10- Concerning Hypercalciuria (false answer):**

A-Hypercalciuria is always associated with hypercalcemia

B- Hypercalciuria can be resorptive

C- We treat absorptive or renal hypercalciuria equally

D- mild hypercalcuria is treated with alkaline citrate

# Answers

## **1- Uric acid and ammonium urate stones (false answer):**

A- Form under completely different biochemical conditions

B- Uric acid stone formation is most commonly associated with low urinary pH and low urine volume rather than hyperuricosuria

C- pH for prevention of urate acid stones should be 6,2 - 6,8 for chemolysis 6,5 - 7,2

**D- There is strong evidence for the association of hyperuricemia with stone formation**

## 2- Concerning Calcium Phosphate stones (false answer):

A- Carbon Apatite is more frequent than Brushite

B- Hydrochlorothiazide can be used to treat Carbon Apatite but not Brushite stones

C- Brushite stones occurrence is not related to UTI

D- RTA and Hyperparathyroidism can cause both Carbon apatite and Brushite stones

**3- Which of the following is NOT a cause of hypocitraturic calcium nephrolithiasis:**

A- Thiazide-induced hypocitraturia

**B- Absorptive hypercalciuria**

C- Distal renal tubular acidosis

D- Chronic diarrheal syndrome

**4- The primary defect in patients with absorptive hypercalciuria is considered to be (correct answer):**

**A- primary hyperabsorption of intestinal calcium**

B- renal leak of calcium

C- Excessive dietary intake of calcium containing foods

D- hypersecretion of PTH



**5- By order of frequency (from the most to the least frequent) the metabolic abnormalities associated with oxalate stone formation are:**

A- Hypercalcuria, Hyperuricosuria, Hyperoxaluria, Hypomagnesuria, Hypocitraturia

B- Hypercalcuria, Hyperoxaluria, Hyperuricosuria, Hypomagnesuria, Hypercitraturia

**C- Hypercalcuria, Hyperoxaluria, Hyperuricosuria, Hypomagnesuria, Hypocitraturia**

D- Hypercalcuria, Hyperuricosuria, Hyperoxaluria, Hypermagnesuria, Hypocitraturia

## **6- Enteric hyperoxaluria (false answer):**

A- usually present with hypocitraturia

**B- Urine pH is usually high**

C- Urine pH is usually low

D- Urinary calcium is usually low

E- urine volume is usually low

**7- A patient with recurrent uric acid calculi is placed on oral medical treatment and returns for follow-up 3 months later. He is noted to have significantly elevated urinary uric acid levels as compared with his first 24-hour urine collection. This finding is due to (correct answer):**

- A- Increased production of endogenous uric acid
- B- Failure to avoid high-sodium foods
- C- Increased solubility of uric acid**
- D- Inhibition of xanthine oxidase.

**8- A patient with uric acid calculi is placed on alkali therapy but returns 1 year later having passed two calcium phosphate stones. A repeat 24-hour urine demonstrates a urine pH of 7.4, a urinary citrate of 450 mg/day, and a urinary uric acid of 875 mg/day. The most likely cause for recurrent stone formation is:**

A- cessation of potassium citrate

B- increase in saturation of oxalate

**C- excess alkalization**

D- increase in saturation of oxalate

**9- First-line medical treatment for the prevention of recurrent cystine stones would be aimed at:**

a- binding of cystine within the intestines

b- decreasing urinary sodium

**c- increasing the solubility of cystine**

d- urinary acidification

## **10- Concerning Hypercalciuria (false answer):**

A-Hypercalciuria is always associated with hypercalcemia

B- Hypercalciuria can be resorptive

C- We treat absorptive or renal hypercalciuria equally

D- mild hypercalcuria is treated with alkaline citrate