

# Case Study 58

Name Am Applebee Class/Group \_\_\_\_\_ Date \_\_\_\_\_  
Group Members \_\_\_\_\_

INSTRUCTIONS All questions apply to this case study. Your responses should be brief and to the point. When asked to provide several answers, list them in order of priority or significance. Do not assume information that is not provided. Please print or write clearly. If your response is not legible, it will be marked as ? and you will need to rewrite it.

## Scenario

dehydration

It is a hot summer day, and you are an RN in the emergency department (ED). S.R., an 18-year-old woman, comes to the ED with severe left flank and abdominal pain and nausea and vomiting (N/V). S.R. looks very tired, her skin is warm to touch, and she is perspiring. She paces about the room doubled-over and is clutching her abdomen. S.R. tells you that the pain started early this morning and has been pretty steady for the past 6 hours. She gives a history of working outside as a landscaper and takes little time for water breaks. Her past medical history (PMH) includes 3 kidney stone attacks, all during late summer. Exam findings are that her abdomen is soft and without tenderness, but her left flank is extremely tender to touch, palpation, and percussion. You place S.R. in one of the examination rooms and take the following vital signs (VS): 188/98, 90, 20, 99°F. Urinalysis (UA) shows RBC of 50 to 100 on voided specimen, WBC 0.

- SS
- flank pain
- abd. pain
- n/v
- perspiring
- warm to touch
- very tired
- PMH = 3 Kidney stones

1. It is common for drug seekers to seek medical care with blood in their urine. What should you do to ensure the UA is correct?

Research → opioids are given for pain

- in depth medical history (prescribed/OTC)
- check subjective w/ objective findings (ensure she isn't faking)
- pain bedpan available to watch

2. The physician orders an IV pyelogram (IVP). What questions do you need to ask S.R. before the test is conducted? What do you need to check in her blood before her having an IVP? or Retrograde pyelogram

ask!

- It is used to localize the degree and site of obstruction or to confirm the presence of a radiolucent stone
- not performed in pt with renal failure.
- reaction to dye used for procedure.

ionic / nonionic } iodine

- are you allergic to iodine?

(www.Emedicinehealth.com)

- are you or could you be pregnant? - don't use dye

- diabetic (Rx - metformin)

- BUN/CREATININE

3. S.R. states she had an allergic reaction during her last IVP and was instructed "don't let anyone give you dye for any testing." The physician cancels the IVP; what alternative test should be conducted?

1st form

- ultrasound - IDiagnose, radiopaque stones
- CT scan - nonopaque stone from a tumor
- 24 hour urine measurement (Ca, Phosphorus, mg, NA, oxalate, citrate, sulfate, K, uric acid and total vol)

**PART ONE Medical-Surgical Cases**

**CASE STUDY PROGRESS**

The noncontrast CT scan shows a left 2-mm ureteral vesicle junction (UVJ) stone.

Multiple types

4. What are the two most common types of stones?

1. calcium phosphate
2. calcium oxalate

1. calcium oxalate
2. struvite

Table 46-12

Risk factors

5. What is the most likely cause of S.R.'s stone?

- dehydration (highly concentrated urine) - lifestyle - occupational influence.
- past hx
- vit A/D deficiency
- UTI - urinary stasis

6. Identify two methods of treating a patient with an UVJ stone.

(://urologystone.com)

1. ureteroscopy ← below the iliac vessel
2. shock wave lithotripsy ← distal ureteral stones

uter meets bladder

What are interventions?

**CASE STUDY PROGRESS**

S.R. was discharged with instructions to strain all urine and return if she experienced pain unrelieved by the pain medication or increased N/V.

UVJ -  
 water crosses over  
 the pelvic brim and  
 into base of bladder and ureter  
 junction.  
 - common site for urinary stones

Pain = renal colic

- pain management
- per hospital support
- keep hydrated
- NPO

research  
(spontaneous  
pass  
w/ hydration)

7. What specific instructions will you give S.R. about her urine, fluid intake, medications, and activity?
- The high fluid intake to prevent stones is avoided - adequate to meet daily needs and avoid dehydration. (2000 - 2200 ml/day)
  - ambulation - encouraged to promote the movement of the stone from upper to lower.
    - need a partner if on opioids or experiencing acute colic
  - avoid foods high in — dependent on type of stone
  - Low sodium diet.
  - when to come back in → blood (bright red)

We will talk about

**CASE STUDY PROGRESS**

S.R. returns to the ED in 6 hours with complaints of (C/O) pain unrelieved by the pain medication and increased blood in her urine. She is being held in the ED until she can be transported to surgery.

8. What is the care plan for S.R.?
- Potential procedures:
- lithotripsy or shock wave therapy

- pain management
- psychosocial support
- keep hydrated.
- NPO

PART ONE Medical-Surgical Cases

CASE STUDY PROGRESS

A 2-mm calculus was removed by basket extraction. Pathologic examination reported the stone to be calcium oxalate.

9. If S.R. continues to form stones, what recommendations would an MD make for this patient?

- require a concerted management approach
- 1° emphasis on teaching and on developing a therapeutic regimen
- involved so they will comply w/ regimen.
- adequate hydration, dietary sodium restriction, dietary changes.
- adjunct w/ prescribed drugs to minimize drug formation
- ↑ activity
- relocate geographically

10. Because S.R.'s stone has been reported as calcium oxalate, what type of diet would be recommended?

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foods high in oxalate

- Dark roughage, Spinach, rhubarb, asparagus, cabbage,
- tomatoes, beets, nuts, celery, parsley, runner beans;
- chocolate, cocoa, instant coffee, oratrine, tea; worcestershire sauce.

? urine/what?

pg 1170 -

- ↑ hydration, reduce dietary oxalate, give thiazide diuretics
- give cellulose phosphate to chelate calcium and prevent its absorption.
- give potassium citrate to maintain alkaline urine.
- give cholestyramine to bind oxalate.
- give calcium lactate to precipitate oxalate in GI tract
- reduce daily sodium intake.