

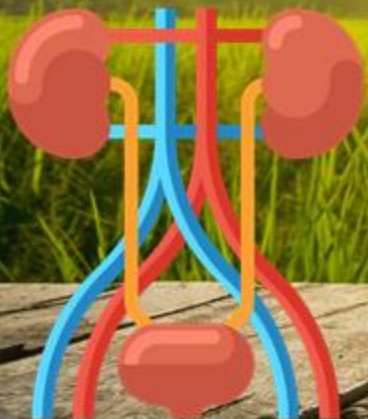


Topic 8

Case Study of Urinary Tract Infection



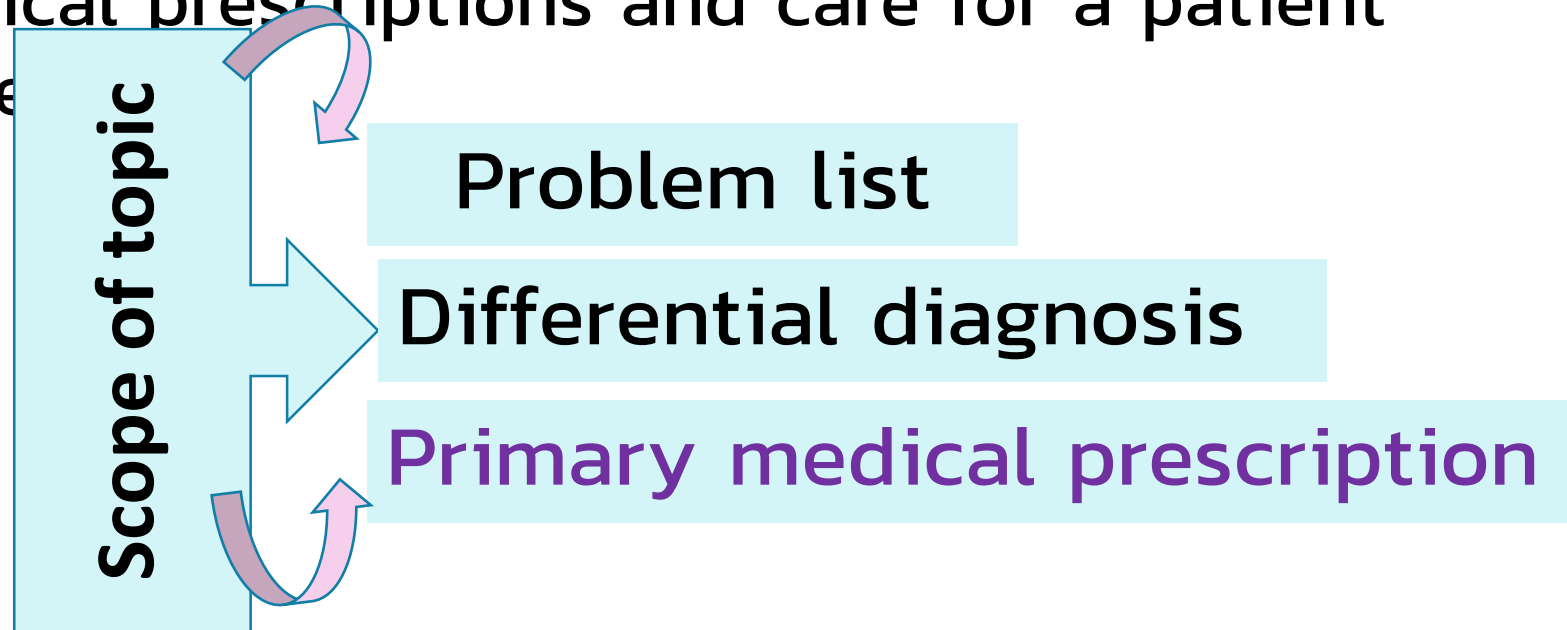
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Lesson objectives

By the end of the topic students should be able to:-

- assess health problems according to patient with urinary tract infection,
- determine differential diagnosis of patient with urinary tract infection,
- provide primary medical prescriptions and care for a patient with urinary tract infection



Chief complaints

A 44- year-old female complaints of fever 3 days and left-back flank pain with dysuria 7 days prior to arrival.

- ✓ In woman, history taking should involve hematuria,
- ✓ vaginal discharge, and last menstrual period (LMP)



- PE: sign of dehydration or fever, skin, abdominal parts, muscle, heart & lungs.



Case study

- A 44- year-old female presents to the hospital with a complaint of **left-back flank pain and a pain score of 9/10 for 7 days.**
- She starts the pain on the left side of her back and **radiates around her flank to involve her entire abdomen.**
- She states that she has been getting progressively worse **after 3 days of onset** which also **starting a sign of fever.** She noticed that she does some **urinary frequency and dysuria.**
- She denies any diarrhea or constipation.
- Today the worsening of back flank pain and fever so that she decided to seek health care.
- Past medical history
- No known drug allergy

Physical examination 1

Vital Signs

T = 38.4 °C, P = 98 beat/min (bpm), fullness, regular rhythm,
R = 20 bpm, BP = 120/80 mmHg.
= 99% of room air oxygen saturation
BW= 63 kg, Ht.=165 cm.

General

The patient is awake and alert, looking acutely ill and appears markedly uncomfortable

- **Mouth**
 - Dry Lip**
 - Buccal mucosa** – No inflammation nor erosions,
 - Tongue** – Normal papillae, no sign of inflammation
 - Pharynx and Tonsil** – No injection



Physical examination 2



Abdomen voluntary guarding. No surgical scars,

No dilated veins,

Bowel sound (BS) 8 bpm.

Abdominal wall soft, **diffusely tender to palpation**
without rebound tenderness.

Murphy's sign negative

Liver & Spleen – not palpable

Kidney – not palpable,

Genitalia Not done

Rectal Examination Not done

Physical examination 3

Musculoskeletal

Muscle power good, R = L,

No abnormal movements

**Costovertebral angle (CVA)
tenderness present on left side**

Rt. flank no sign of
inflammation,

Lt. flank no sign of
inflammation

Skin warm and dry without rashes
or lesion

Costovertebral angle tenderness



Picture from:

<https://i2.wp.com/www.madeformedical.com/wp-content/uploads/2018/07/Costovertebralangletenderness.jpg?ssl=1>



Murphy's sign negative

[SpecialTests Murphy's Sign - Bing video](#)

**Costovertebral angle (CVA) tenderness
present on left side**

[https://www.bing.com/videos/search?q=Costovertebral+angle+\(CVA\)+tenderness+vdo&docid=608000131787807367&mid=86D28CD58AD42F3D7A8386D28CD58AD42F3D7A83&view=detail&FORM=VIRE](https://www.bing.com/videos/search?q=Costovertebral+angle+(CVA)+tenderness+vdo&docid=608000131787807367&mid=86D28CD58AD42F3D7A8386D28CD58AD42F3D7A83&view=detail&FORM=VIRE)

Problem lists

1. Severe left-back flank and **radiates** pain 7 days,
2. Fever 3 days
3. Urinary frequency and dysuria
4. Abdominal wall soft, diffusely tender to palpation
5. Costovertebral angle (CVA) tenderness present on left side
6. Dry lip

Differential diagnosis

- 1. Acute pyelonephritis
 - 2. Acute cystitis
 - 3. Acute urolithiasis
 - 4. Acute cholecystitis
- urinary frequency and dysuria
- flank pain

Plan for diagnosis

(Physician order)

- CBC
- UA

Laboratory results

➤ Blood test: CBC

- Hct 44% (Normal 42-52%)

- **WBC 12,500 cell/cu.mm.**

(Normal 5,000-10,000 cell/cu.mm)

Neutrophils 77% (Normal 55-70%)

Eosinophils 0% (Normal 1-4%)

Basophils 3% (Normal 0.5-2%)

Lymphocytes 20% (Normal 20-40%)

Platelets 200,000 cell/cu.mm. (Normal 150,000-400,000 cell/cu.mm.)

➤ UA

• Urinalysis

- Turbid urine

- RBC 10 cell/HF

(Normal 0-1 cell/HF)

- Epithelial cell 1-2 cell/HF
(Normal 0-1 cell/HF)

- WBC 50 cell/HF

(Normal 3-5 cell/HF)

-Protein 2+

Assessment & Analysis

Problem lists

1. Severe left-back flank and **radiates** pain 7 days,
2. Fever 3 days
3. Urinary frequency and dysuria

4. Abdominal wall soft, diffusely tender to palpation
5. Costovertebral angle (CVA) tenderness present on left side
6. Dry lip

➤ UA

- Urinalysis
 - Turbid urine
 - RBC 10 cell/HF
(Normal 0-1 cell/HF)
 - Epithelial cell 1-2 cell/HF
(Normal 0-1 cell/HF)
 - WBC 50 cell/HF
(Normal 3-5 cell/HF)
 - Protein 2+

CBC: WBC & PMN increased

Differential diagnosis

1. Acute pyelonephritis
 2. Acute cystitis
 3. Acute urolithiasis
 4. Acute cholecystitis
- urinary frequency and dysuria
- flank pain

Costovertebral angle tenderness



Picture from:
<https://i2.wp.com/www.madeformedical.com/wp-content/uploads/2018/07/Costovertebralangletenderness.jpg?ssl=1>

Final diagnosis : **Acute pyelonephritis**

Specific treatment

Antibiotic 5 days such as;

- Norfloxacin 400 mg 1x2 oral
- Ofloxacin 200 mg 1x2 oral
-
- Ceftriazone 2 grams/day via venous administration (Physician order)

Symptomatic treatment

- Acetaminophen (Paracetamol) 500 mg. 1.5 tabs q 6-8 hrs. for fever or pain.
- Force clean water \geq 1,500 ml.
- Patient health education: urethra flushing

Summary

- A 44- year-old with signs and symptoms of pyelonephritis such as left-back flank pain and radiates to the entire abdomen, fever, urinary frequency, and dysuria.
- Her physical examination showed abdominal wall diffusely tender to palpation, costovertebral angle (CVA) tenderness present on the left side, and dry lip.
- Her laboratory test results abnormality in CBC and UA that evidence to support the final diagnosis of pyelonephritis.
- Her primary medical treatment should be antibiotic and fever killer.
- Health education addressed on drink clean water and hygiene of urethra.



Thank You!



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