MECHANISMS OF HUMAN DISEASE
AND
PHARMACOLOGY & THERAPEUTICS

CASE-BASED SMALL GROUP DISCUSSION

MHD II
SESSION 6

Sexually Transmitted Diseases

MARCH 14, 2019

STUDENT COPY

PLEASE NOTE: There will be 2 questions on the MHD II block 4 exam derived from this session’s cases

Useful Resource available through LUHS Library:
Scientific American Medicine → Infectious Diseases → Infectious Syndromes → 178. Vaginitis and Sexually Transmitted Diseases
Case 1:
CC: Fever and lower abdominal pain x 3 days

A 23-year-old woman presents with fever of three days duration, nausea, and worsening lower abdominal pain. She rates the pain 8/10 at its worst. The pain seems worse in the right lower abdomen at times. She denies dysuria, hematuria, genital ulcerations, change in bowel habit, melena, or hematochezia. She has eaten little in the past 2 days. She is sexually active and has a new male partner. She uses oral contraceptives and does not regularly use condoms.

She has no medical problems, takes no prescribed medications, and has no allergies. She had a PAP smear done about 6 months ago which she reports to be “normal”. She does not smoke cigarettes, rarely uses alcohol, and denies illicit drug use. She works in a marketing firm.

On examination, she has a temperature of 39°C, pulse rate of 110 per minute, respiratory rate of 28 per minute, and B/P of 100/60. She is ill appearing and diaphoretic. Oral mucosa is dry; there are no oropharyngeal lesions. Heart and lung examinations are normal. There is no cervical, axillary, or inguinal lymphadenopathy. On abdominal exam there is diffuse lower abdominal tenderness with right lower quadrant tenderness to deep palpation. There is no rebound tenderness elicited. Bowel sounds are present but hypoactive. Her pelvic examination reveals right adnexal tenderness and cervical motion tenderness. The uterus is tender and slightly enlarged. Thick yellow vaginal discharge is sent for microbiological studies. The labia are normal. Rectal exam is normal and brown stool is occult blood negative. Skin exam reveals no rash.

Educational Objectives

1. Develop a differential diagnosis for fever and acute lower abdominal pain. Cite pertinent positives and negatives

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<th>Disease Process</th>
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2. Why was the urine pregnancy test ordered?

3. What diagnosis do you favor based on the given data? Explain the minimum clinical criteria needed to make this diagnosis.

4. Name the common pathogens implicated in this disease process.

5. How do microorganisms reach the upper genital tract?

Laboratory Data

**Chlamydia Gc Probe** (Final)

- **Specimen**: Cervical
- **Description**: -
- **Special Requests**: -None
- **Culture Results**: positive for neisseria gonorrhoeae by nucleic acid amplification
- **Report Status**: -final 08132003

6. Develop a treatment plan for this patient.

7. The patient asks “Am I going to have any permanent damage from this?”
   How would you answer?
8. Unknown – Question will be provided during the small group session.

9. Unknown – data will be provided during the small group session (content of the unknown relates to antibiotic management of this patient’s disease process)

Case 2
CC: painful sores in genital area x 3 days

An 18-year old woman has a 3-day history of fever, headache and painful sores in the genital area. The patient has no previous history of genital lesions. Medical history is unremarkable and her only medication is an oral contraceptive agent. She does not use condoms. On physical examination, temperature is 38.1°C; other vital signs are normal. There are no signs of meningismus. Tender ulcerative lesions with a yellow crusted roof cover the labia bilaterally and the vaginal introitus.

Educational Objectives

1. Develop a differential diagnosis for the most common causes of sexually transmitted genital ulcers. Which do you suspect in this patient?

2. How could you confirm your diagnosis?

Case 3
CC: “It burns when I urinate” x 3 days

A 24-year-old man presents with the main complaints of burning with urination for 3 days and penile discharge. He denies a history of fever, chills, nausea, or abdominal pain. He denies ever having had such symptoms before. He has had several male partners over the past year and recently met a new male partner. He had sex with him four days prior to the onset of symptoms. He has no chronic medical problems. He takes a vitamin daily.

On physical examination his oropharynx is normal. Bilateral testes and epididymis are normal. There are no penile ulcers. There is erythema at the urethral meatus with spontaneous purulent discharge. There is no inguinal lymphadenopathy.

Swabs of the urethral exudate are obtained. Gram stain reveals numerous polymorphonuclear leukocytes with intracellular Gram negative diplococci.

EDUCATIONAL OBJECTIVES

1. What is the clinical diagnosis? Why?

2. What microorganisms cause this condition? How do the gram stain results help in determining the cause in this case?

3. Besides gram stain and culture, what are other diagnostic methods available to determine the etiology of the infection in this case?

The patient is administered ceftriaxone 125mg intramuscularly. He is instructed to avoid any sexual contact for 7 days following treatment (he is compliant) and is sent home. The patient notes improvement initially but one week later he returns to the clinic with persistent symptoms of dysuria and discharge. Physical examination is normal aside from urethral discharge.

Swabs of the urethral exudate are obtained. Gram stain reveals numerous polymorphonuclear leukocytes without intracellular Gram negative diplococci.

4. Now what is the likely diagnosis? What treatment regimen should be prescribed for this patient?
5. What are the usual sites of infection with Neisseria gonorrhoea in males? In females? What other sites may be infected?

6. Comment on the appropriateness (or inappropriateness) of prescribing each of the following antibiotics for uncomplicated gonorrheal infections:
   - Penicillin
   - Ceftriaxone
   - Ciprofloxacin

7. Unknown – Question will be provided during the small group session.

8. Review Case Image – Bacteriology, Set 14

Case 4 – Unknown – Students be will provided data during the small group session (topic – vulvovaginitis)