

The Usual Suspects

Common microorganisms causing infections in the genitourinary tract""

Bacteria

Gram-positive

Staphylococcus aureus

Staphylococcus saprophyticus

Streptococcus pyogenes

Gram-negative

Chlamydia trachomatis

Escherichia coli

Gardnerella vaginalis

Haemophilus ducreyi

Leptospira interrogans

Neisseria gonorrhoeae

Treponema pallidum

Fungi

Candida albicans

Viruses

Herpes simplex virus

Human papillomavirus

Protozoa

Trichomonas vaginalis

Case 6.1

As part of a community service requirement in your second-year nursing program, you are volunteering at the local clinic for sexually transmitted diseases (STDs). At the clinic, you are responsible for conducting intake interviews. When patients arrive, they fill out a questionnaire and then you take them to an office to go over their answers with them.

Your first patient is a 22-year-old woman. On the questionnaire, she lists her chief complaint as "pain in her belly." You wonder why she has come to the STD clinic for belly pain and speculate it is because this clinic is the only one in town that is free. You excuse yourself and ask the head nurse if it's okay to continue with this client's questionnaire. "Why wouldn't it be?" is his answer. You say you don't think belly pain points to a sexually transmitted disease. The nurse chuckles and says it is one of the most frequent complaints they have in this clinic.

1. What is the association between belly pain and STDs?
2. What causes the belly pain, exactly?
3. Is the belly pain a serious sign?
4. What diagnostic tests are called for? Treatment?
5. You look further down on the questionnaire and see there is a question about the client's recent sex partners. She answered that she has had relations only with her boyfriend during the past 12 months. Does the boyfriend need information or treatment? Explain.

Case 6.2.

You met your wife Becky at the local hospital where you are a nurse and she works in medical records. You were married 18 months ago and now she discovers she is pregnant. You are both extremely happy and you go together to the obstetrician for her first prenatal visit. Everything looks good; she is seven weeks into a normal pregnancy. About 10 days later you come home from work and she is waiting for you in the kitchen, looking very upset. She tells you that the obstetrician's office called this afternoon with the news that she has tested positive for gonorrhea.

She says it must mean that you have been unfaithful to her, since she knows for sure that she has had no relations with anyone else since you were married. She is so distraught that she will not listen to what you have to say. She packs a suitcase and drives to her mother's house across town.

You believe Becky without question. At the same time you know that you have also been faithful,

1. How is this infection possible if both of you have been monogamous for at least two years?
2. What about the immediate problem? Should Becky be treated, even though she is pregnant? Discuss.
3. Is penicillin the best treatment for gonorrhea? Why or why not?
4. Once these facts are explained to Becky, she calms down. But you wonder if there is a shadow of doubt about your fidelity 'in her mind. You wonder how other couples fare-particularly those who may have less trust 'in one another, or don't know how to access information about STDs. Speculate about why Becky's physician did not explain all the possibilities.

Case 6.3.

You are working the night shift on The Answer-Line, a telephone service provided by a health management organization for its enrollees. You receive a call from a 26-year-old woman. She has been experiencing painful urination for the past 24 hours. This is the first time she has had this condition and she describes herself as otherwise healthy.

1. What are some of the first questions you should ask?
2. The patient reports a fever of 101.5° F and a nearly constant urge to urinate, though she often voids little or no urine. What is your preliminary diagnosis?

3. There is a certain symptom that she has not mentioned. What is it and why is it important that you ask her about it?
4. What is the most likely causative organism for this condition?
5. What is the route of transmission of this organism?
6. What are some other causative organisms for this condition?

Case 6.4

Your roommate Jane complains to you that she has had intense vaginal itching for the past day and a half. (She often asks you medical questions because you are nearly finished with your nursing degree.) She says the same symptoms crop up from time to time and that she buys over-the-counter antifungal creams that seem to take care of them after a few days. I guess they are yeast infections," she says. "But I don't know where I keep getting them from." She adds that she hasn't had sex with anyone since her junior prom, three years ago. When you ask her how frequent the episodes are, she says about once every six weeks or so.

1. What is the causative organism of vaginal yeast infections? Where is Jane "getting them from"?
2. What conditions could **predispose** a woman to such frequent yeast infections?
3. Should Jane continue to self-medicate for her yeast infections or should she see a doctor? Please explain.
4. Are there any possible serious consequences of vaginal yeast infections?

Case 6.5

A pregnant woman arrives at your practice because she has noticed a **copious** vaginal discharge and is worried that it may indicate problems with her pregnancy. After a pelvic examination, the physician says there is a whitish, smooth coating on the walls of the vagina. Microscopic examination of vaginal fluids reveals the presence of "clue cells." The physician, a rather gruff type, writes "bacterial vaginitis" on the chart, prescribes an antibiotic, and moves on. The patient turns to you for answers.

1. What usually causes bacterial vaginitis (often called BV)?
2. What are clue cells? What bacterium is associated with clue cells?
3. Is BV a dangerous condition? Explain.
4. Is BV a sexually transmitted disease? Elaborate
5. What other diseases are in the differential diagnosis of a woman with copious vaginal discharge?
6. Is BV treatable? If so, with what? What is the likely outcome of treatment?

Case 6.6

Your best friend, Jack (a 30-year-old investment banker), has had a steady girlfriend for the past six months. He has avoided having sex with her because she told him she has genital herpes. You remember the day that she told Jack about it; he came over to your house very upset and the two of you talked for hours about what that meant for Jack. He thought about breaking up with her because he couldn't see how they could have a long-term, intimate relationship. But finally he decided 'that he did love her and they would figure something out.

Now she wants to take the relationship to the next level, a level that includes sexual relations. She told Jack that they would do this only if she were lesion-free and that if he wore a condom, they would be fine.

Jack is skeptical. He comes to you for advice.

1. Are they safe if she does not have lesions at the time of their intercourse? Why or why not?
2. Whether Jack's girlfriend has lesions or not, if he uses a condom he will be protected, right?
3. If Jack were the one with herpes and his girlfriend was uninfected, would his use of a condom completely protect her? Explain.
4. What would you say is the safest way for Jack and his girlfriend to have intercourse?
5. What about those new drugs Jack has heard about on TV? Can his girlfriend take those and cure herself? Or at least avoid infecting him? Give some detail.

Case 6.7

Your mother told you a story about a 14-year-old patient that she saw in the early 1980s when she was a nurse in a gynecologist's office.

Your mother's first contact with the young girl was after she vomited in the waiting room. She told your mother that she started feeling ill the night before. She had been having unusually heavy menstrual bleeding and reported having a fever earlier that morning. The young patient complained of chills and had a diffuse rash on her arms and legs.

A physician arrived on the scene and he and your mother helped her back to the examining room. Your mother checked her temperature and her blood pressure while the doctor asked her some questions. His first question was whether her neck was stiff or painful. She answered no, but the doctor ordered a **lumbar puncture** anyway. The patient was starting to look dizzy and her blood pressure was low: 90/70. The doctor asked her if she had ever had sexual intercourse and the patient answered that she had not. When the patient's mother came in from parking the car the doctor asked if her immunizations were up to date. The mother confirmed that they were.

Your mom added that the other peculiar thing about this patient was that several days after she was admitted to the hospital, the skin on the palms of her hands began to slough off.

1. What kind of infectious diseases come to mind when a widespread rash is seen as the primary complaint (Hint: Why had the doctor asked about her sexual history? Why did he ask about her immunizations?)
2. Her rash was diffuse, with well-separated bumps that were **maculopapular**. Was it likely to be chicken pox? Why or why not?
3. The cerebrospinal fluid obtained from the lumbar puncture was clear-no evidence of bacteria. Another infection was ruled out. Which one?
4. The doctor then asked the patient about her menstrual history and practices. She began menstruating at the age of 12 and reported that her last period began four days ago. She reported that she mainly uses tampons during her period. What infection do you think the doctor had in mind in asking about menstruation? What do you know about the infection in question?
5. Your mother says that if you see a patient with these symptoms once you start your practice as a physician's assistant, it is less likely to be the same infection. Why?

Case 6.8

A sophomore named Michelle **presents** at the college health service (where you are observing for the day) with fever (105° F), **malaise**, headache, and pain in her genital region that is severe upon urination. The physician examines her genital region and finds four blister-like lesions on the outer **labia**, each 2-3 mm in size. The lesions are filled with clear fluid; there is no sign of bleeding from them. While you are taking her history, Michelle reports that she has had two successive abnormal Pap smears in the past year. After the first abnormal Pap, she was treated with an anti-protozoal drug. She reports taking the full course of the antibiotic.

1. What questions about the patient's behavior should the physician ask during the history?

2. What is your **presumptive diagnosis** based on the facts presented? What other conditions might be in the **differential diagnosis**?
3. Why do you suppose the patient was treated with an anti-protozoal drug after her first abnormal Pap?
4. Of what importance is the patient's history of abnormal Pap smears?
5. What tests should be ordered to confirm the presumptive diagnosis?