Jennifer is a young college sophomore who is enduring the stress of finals week. During
the course of one of her late night study sessions, she begins to feel an irregular sensation
in her vaginal area. She develops a burning sensation along with vaginal itching which
causes high levels of discomfort. Around the end of the week, Jennifer developed an odd
smelling odor and had some discoloration. She also had an abnormal vaginal discharge
which was followed by painful and cloudy urination.

1. What would be a differential diagnosis for Jennifer’s current symptoms and why?
   (Give 4 possibilities)
   Vaginal Yeast Infection (vulvovaginal candidiasis)
   As a common vaginal infection there is an overgrowth in yeast, Candida albicans.
   The yeast is a natural part of vaginal flora in smaller numbers. The overgrowth
can occur in a number of ways including increased stress, illness, using hormonal
contraceptives, or when antibiotics kills of natural bacteria. The symptoms which
underline the infection are pain while urinating, itching and irritation, abnormally
thick vaginal discharge, vaginal burning, and inflammation (11).

   Trichomoniasis is a sexually transmitted infection caused by a single-celled
   protozoan parasite called Trichomonas vaginalis. It mostly affects women,
   although in some cases it can infect men can who can pass the infection on to
   their partners through sexual contact. It is also the most common curable STD in
   sexually active women. The symptoms can begin to appear around 5 days after
   exposure in women and include vaginal discharge with greenish or yellow
   coloration followed by a strong odor, painful urination, vaginal itching, and
   discomfort during sexual intercourse; there are also instances of abdominal pain
   (10).

   Gonorrhea which is caused by the bacterium Neisseria gonorrhoeae, also known
   as the “clap” is another more common sexually transmitted disease. Females from
   15-19 years of age are infects in the highest numbers. The symptoms range from
   abnormal vaginal discharge, abdominal pain, burning sensation during urination,
   and swelling of the vulva. In some cases mild symptoms can occur which can go
   unnoticed (7).

   Chlamydia, which in the United States is the most common bacterial sexually
   transmitted disease is caused by Chlamydia trachomatis. Chlamydia is transmitted
during vaginal, anal, or oral sexual intercourse with an infected person. If early
   symptoms are mild they can go unnoticed and the highest rates of infected
   persons are 15-19 years old. Such symptoms normally begin to show around from
   1-3 weeks of exposure. These symptoms can include: abnormal vaginal discharge
   followed by a distinct odor, an itching or burning sensation around the vagina,
   cloudy and painful urination, bleeding between periods, and abdominal fever (6).
Jennifer does not see these symptoms as something serious and puts off going to the doctor. As time progresses further, Jennifer does begin to experience more pain including when she engages in sexual intercourse. Having never happened before, she begins to worry and her concern is later turned into action after developing a fever and experiencing abdominal pain. She calls to make an appointment with the physician and is able to go in the next morning. After completing an assessment of her symptoms, the doctor orders a few tests to better diagnose Jennifer. A pelvic exam, a urine screen through utilizing PCR (Polymerase Chain Reaction) and culture, vaginal secretion samples, and a rapid test are all conducted. Once the results come in they show that both the urine screen and culture where negative for a urinary tract infection and that the PCR was negative for *N. gonorrhoeae*. In the microscopic exam there was no overgrowth for yeast from the vaginal secretion sample. The whiff test which is performed by adding a small amount of potassium hydroxide (KOH) to a microscopic slide containing vaginal discharge came out negative for Trichomoniasis.

After reviewing the findings of the medical tests, the rapid test showed a positive result of this:

![Rapid Test Result](image)

There was also evidence of cervical inflammation as shown in the image below:

![Cervical Inflammation](image)

And finally cells from the infection are taken and put under microscopic view to show this type of test

![Microscopic View](image)

2. What is being shown in these pictures? The first picture is a rapid test showing positive results for chlamydia. In the second picture, the cervical inflammation is referred to cervicitis which is commonly caused by sexually transmitted diseases. The third picture is a group of cells showing a pap smear for the STD, chlamydia (1).
3. What disease does Jennifer have? Based on the information gathered and the results of the medical findings, Jennifer has Chlamydia.

4. Upon diagnosis, what type of medicine will Jennifer be prescribed? The doctor will prescribe a 1 day course of an azithromycin antibiotic or a 7 day course of the doxycycline antibiotic. Other antibiotics known to work with treated chlamydia include ofloxacin and erythromycin (2).

Now that Jennifer has been diagnosed with this disease what be best advised when engaging in sexual activity? It is best advised that she inform her recent sexual partner(s) to be tested for the disease. She should also refrain from unprotected sex and utilize condoms when engaging in sexual activity to avoid any further transfer of the disease. Also, it is best to inform any new partners of her current condition.

5. If the disease that Jennifer has goes untreated what risks does she open herself up to?

The infection has the ability to spread to the uterus and fallopian tube and can lead to pelvic inflammatory disease otherwise known as PTD. Such damage can lead to infertility, chronic pelvic pain, or an ectopic pregnancy. Another infection that could arise from failure to seek proper treatment is Reiter’s syndrome (5). It is also known as reactive arthritis and can cause eye and urethra inflammation, and skin lesions. Lastly, there is always the pertinent risk of acquiring HIV through unprotected sexual contact and as Jennifer already has Chlamydia, her chances increase (4). Also, another major risk of contracting HIV is that it can develop into AIDS and cause lifelong health issues.

6. What is the current epidemiology of cases for this disease for Texas and the United States?

The recent statistics rank Texas 13th out of 50 states when it comes to chlamydia infections. This is around 495 cases per 100,000 people. The rate of infection among women is much higher with 745 cases per 100,000 people and women are also 3 times more likely than men to contract the disease (9). Earlier this month there was an outbreak of 20 chlamydia cases at a West Texas high school which only taught abstinence in lieu of sex education. Crane High School’s curriculum did not provide any STD prevention methods as they did not discuss how to use contraception. In such a situation, some infected students may have ignored their symptoms causing further risks to their health and well-being (8).

In the year 2013, 1,401,906 cases of chlamydia were reported in the United States, including the District of Columbia. That is about 446 cases for a population of 100,000. Although this rate was a 1.5% decrease from previous years it is still a harrowing number as almost half the people out of 100,000 people have the potential to become infected (3). Also, in our region of the United States, we saw 485 cases for 100,000 people, the highest out of any other region.

Works Cited


