My Case Study Solution
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To celebrate her 27th birthday, Jessica went on a beach trip to Miami, Florida with a group of friends. They made the most of their trip by spending the whole day swimming and tanning on the beach, and then partying into the late hours of the night. Jessica and her friends met another group of guys staying at the same hotel while out one night, and everyone really hit it off. For their last night out, everyone drank heavily and lived adventurously. Several couples, including Jessica, ended the night together in bed. Jessica was able to leave Miami with many great memories of a successful birthday trip with her friends.

After 3 days of being home, Jessica begins to develop some discomfort with urination and some abnormal vaginal discharge. Throughout the trip, Jessica didn’t change out of her wet clothes regularly while out on the beach, and thinks that she may have contracted a urinary tract infection. Jessica purchases some over the counter medicine for urinary discomfort. After several days with no relief, Jessica visits her gynecologist.

1. Give a differential diagnosis of four infectious diseases Amy might have. For each, give your reasoning why it could be that disease and explain the likelihood of it being that one.

**Urinary Tract Infection (UTI)** - these infections are caused when bacteria enters the urethral tract and symptoms can include increased and painful urination, abdominal cramping, cloudy or bloody urine, and feeling the urge to urinate without being able to empty the bladder. Jessica could potentially have a UTI, but her discharge wouldn’t be explained by this diagnosis. It’s possible that Jessica has a UTI in addition to another infection. Therefore, confirmation labs should be done to confirm a diagnosis (9).

**Gonorrhea** - symptoms for this disease typically appear within 1-14 days after infection, but many people never show signs of infection. Symptoms can include vaginal discharge, urinary pain or increased frequency, or irregular menstrual bleeding. When symptoms do appear, they typically tend to be mild and can be missed for other infections. It’s likely that Jessica has this infection, but further testing is needed to confirm a diagnosis (3).

**Chlamydia** - this disease presents similar symptoms to gonorrhea. Given the slow replication cycle for this organism, symptoms typically take weeks to show. Symptoms can include, abnormal discharge, abnormal vaginal bleeding, and possibly painful and increased urination. Due to the early development of symptoms, it’s not likely that Jessica has this disease. However, the symptoms are consistent with chlamydia and further testing is needed to confirm a diagnosis (2).
Trichomonas - symptoms include vaginal itching, burning and/or irritation, painful urination, painful intercourse, and abnormal discharge. Symptoms typically show between 5-28 days after infection, but can fluctuate between intermittent episodes of symptoms. About 70% of people never develop symptoms of infection, and severity can range from mild to severe. Jessica did not report any vaginal irritation or burning, but the other symptoms are consistent with this disease. Similar to the previous potential diseases, more testing is needed to confirm diagnosis (8).

While at the gynecologist, Jessica’s urine sample was tested for signs of a urinary tract infection. The results were negative, and the doctor questions Jessica further about recent sexual activity. Jessica admits to having intercourse recently, and cannot remember if they used a condom because everyone had been drinking heavily. Jessica described how she never worries about condoms because she’s had a non-hormonal IUD for six and half years. The doctor decides to order STD testing.

2. Who should be tested for STD’s? What are some preventative measures that can be taken to avoid STD infections?

Anyone who is sexually active should receive regular STD testing. The only sure way to prevent infection from an STD is to practice abstinence, or to refrain from any form of oral, genital, or anal sex. However, sexually active individuals should have open communication with their sexual partners and be honest about their medical history and current testing. Ideally, sexually active individuals should get STD testing after every new sexual partner. To reduce the risk of spreading STD’s, individuals should practice mutually exclusive monogamous relationships. Finally, the use of barriers can help reduce the risk of spreading STD’s- this can be condoms for males or vaginal diaphragms for females (6).

Jessica’s STD panel comes back positive, and the doctor explains that Jessica tested positive for gonorrhea.

3. Define the etiological factor for this disease and give its taxonomy.

Gonorrhea is caused by the gram-negative, aerobic, coccus bacterium called Neisseria gonorrhoeae. The taxonomy for N. gonorrhoeae is from the kingdom Bacteria, Phylum Proteobacteria, Class Beta Proteobacteria, Order Neisseriales, Family Neisseriaceae, Genus Neisseria, and species gonorrhoeae (10).

4. Describe the common symptoms for this disease and severity in which they appear. How do these compare to other sexually transmitted diseases?
Some people never develop symptoms of gonorrhea, it’s described as “silent” diseases because people are unaware that they are infected. This disease is highly contagious and therefore people are more likely to spread it to new partners since they aren’t aware they are carrying infection. However, people that develop symptoms typically show signs 2-14 days after infection. For females, these symptoms can include unusually colored discharge, painful and/or increased urination, abnormal menstruation, and possibly painful intercourse. Symptoms are generally mild and can be confused for UTI symptoms or yeast infections, such as in Jessica’s case. For males, symptoms are even less likely to appear. Most commonly, males develop painful urination, sometimes males get pus-like discharge from their penis, or swollen and painful testicles. Symptoms for gonorrheal infection are consistent with other STD’s and full testing should be done to rule out the possibility of other infections, especially because many of these infections have silent symptoms (5).

**What complications can arise from an untreated infection?**

If left untreated, gonorrheal infection can cause pelvic inflammatory disease (PID) in women, chronic pelvic pain. In severe cases, infection can lead to infertility by damaging fallopian tubes. In males, prolonged infection can lead to epididymitis that could potentially cause infertility. Untreated gonorrheal infection can also lead to disseminated gonococcal infection (DGI), which can be life threatening and is characterized by arthritis, tenosynovitis, or even dermatitis. Infections that go untreated can also increased an individual’s risk for contracting HIV (3).

*The doctor gives Jessica medicine to treat the gonorrheal infection, and has Jessica schedule a follow up appointment to confirm that the infection has cleared.*

5. **Describe what treatment the doctor prescribed Jessica. What are some challenges to providing treatment options for this disease?**

The doctor prescribed Jessica a combination of antibiotics. Currently, the CDC recommends a dual therapy of an injection of 250 mg of intramuscular ceftriaxone in conjunction with 1 g of an oral azithromycin tablet. It’s important to take both antibiotics to ensure that the infection is fully treated. Health providers are concerned with the emergence of cephalosporin-resistant gonorrhea strains that would complication treatment options (1, 4).

**What is EPT/PDPT treatment?**

EPT stands for expedited partner therapy/PDPT stands for patient-delivered partner therapy, and refers to prescribing treatment to the patient’s partner at the same time that treatment is provided to the patient. Therefore, the partner doesn’t have to be seen by a healthcare provider and the patient can ensure that they won’t contract the infection again with that same partner. While this option isn’t available in every state, most states offer EPT/PDPT (7).
Works Cited


