

Module 7 Case Study

Student's Name

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## Module 7 Case Study

**Scenario:** A 32-year-old female presents to the ED with a chief complaint of fever, chills, nausea, vomiting, and vaginal discharge. She states these symptoms started about 3 days ago, but she thought she had the flu. She has begun to have LLQ pain and notes bilateral lower back pain. She denies dysuria, foul-smelling urine, or frequency. States she is married and has sexual intercourse with her husband. PMH negative.

**Labs:** CBC-WBC 18, Hgb 16, Hct 44, Plat 325, Neuts & Lymphs, sed rate 46 mm/hr, C-reactive protein 67 mg/L CMP wnl

**Vital signs** T 103.2 F Pulse 120 Resp 22 and PaO<sub>2</sub>

99% on room air. Cardio-respiratory exam WNL with the exception of tachycardia but no murmurs, rubs, clicks, or gallops. Abdominal exam + for LLQ pain on deep palpation but no rebound or rigidity. Pelvic exam demonstrates copious foul-smelling green drainage with reddened cervix and + bilateral adenexal tenderness. + chandelier sign. Wet prep in ER + clue cells and gram stain in ER + gram negative diplococci.

Sexually Transmitted Diseases (STDs) can adversely affect the fertility of any woman who wants to have children. If left untreated, even asymptomatic STDs can eventually result in an episode of Pelvic Inflammatory Diseases (PID) (Tsevat et al., 2017). Women with PID often possess scarring on their fallopian tubes and other reproductive organs, making it difficult for them to conceive because sperm find it difficult to reach the egg (Ingerslev et al., 2017). In some cases, the woman may have an ectopic pregnancy, especially when the egg does not get to the uterus before implanting. This paper, therefore, analyzes the case study to explain the various factors involved in the fertility issues in women with STDs.

In the case study above, several factors affect the fertility of the patient. One of the factors is the presence of an STD that manifests through the symptoms such as foul-smelling urine and vaginal discharge. As noted earlier, an STD can affect the fertility of this patient because it contributed to the development of PID. The signs of PID in the patient include pain in the lower abdomen, adenexal tenderness, fever, chills, and chandelier sign, indicating that there is an inflammation in the pelvic area. In the scenario, the patient is likely suffering from either a

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STDs like Chlamydia and gonorrhea, which are the common cause of infertility in women (Tsevat et al., 2017). These factors cause infertility by causing inflammation that leads to the scarring of the fallopian tube. The scarring prevents the proper movement of the egg to allow fertilization.

The inflammatory markers such as white blood (WBC) and C-reactive protein (CRP) rise in STD or PID due to bacterial infection. As seen in the case scenario patient, the WBC and C-reactive protein are too high, indicating a bacterial infection. During a bacterial infection, the body produces more of the WBC to try and fight the bacteria that continue to multiply rapidly, causing inflammation, and eventually an increase in the WBC (Safrai et al., 2020). Similarly, CRP also increases simultaneously. Inflammation in the case scenario patient is evidenced by the adnexal tenderness.

In patients with STD or PID, there is a likelihood of prostatitis and infection to occur in the prostate as a result of viral leak into the prostate gland from the urinary tract and from a direct extension or lymphatic spread from the rectum (Puhr et al., 2016). Similarly, a systemic reaction may occur when the inflammation spreads from a localized region of one organ to the other organ system in the patient's body.

In the case where the patient develops ITP, she would need a splenectomy to remove the spleen because her immune system will treat platelets as foreign bodies and destroy them. Notably, the spleen is responsible for the removal of damaged platelets (Chaturvedi, Arnold, & McCrae, 2018). Therefore, removing the spleen will help the patient to keep more platelets circulating in the patient's body.

Sometimes, patients with STDs or PID experience different kinds of anemia, such as micro and macrocytic anemia. In microcytic anemia, the erythrocytes are smaller than normal,

implying that the red blood cells cannot carry enough hemoglobin. On the other hand, in macrocytic anemia, the red blood cells are larger than normal, also implying that the bigger red blood cells will be fewer in number and consequently lead to insufficient hemoglobin (Maner & Moosavi, 2019). In both cases, the anemia is associated with iron deficiency, which is determined by the hemoglobin count. However, in the case scenario patient, the hemoglobin is within the normal range, implying that the red blood cells have not been affected by the infection that caused PID.

Overall, STD infections such as Chlamydia and gonorrhea can substantially affect female fertility, especially when it causes PID, which is one of the leading causes of infertility in women. Besides, the inflammatory markers in patients with STDs or PID increase. Similarly, such patients also risk having prostatitis and infection due to bacteria leak. Moreover, in case the patient develops an ITP, the spleen needs to be removed. These patients also risk having different types of anemia.

## References

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