Peer 1 Gonorrhea Post

Background

            Gonorrhea is a sexually transmitted disease (STD) affecting millions of individuals around the world each year and is reported to be the second most common notifiable disease within the United States. Primarily spread through sexual intercourse (vaginal, anal, or oral), gonorrhea is caused by the gram-negative bacterium, Neisseria gonorrhoeae. However, it can also be spread by other means, such as contact through open wounds and from vaginal delivery with infants of infected mothers; considered to be far less common. If left untreated, potential complications of gonorrhea can often occur and include cervicitis, epididymis, ectopic pregnancy, pelvic inflammatory disease (PID), Bartholin gland abscess, perihepatitis, and infertility (Schub & Boling, 2018). Behavioral (e.g. sex without a condom and sex with multiple partners) and socioeconomic factors (e.g. low socioeconomic status) has been demonstrated to significantly increase the risk and spread of this infectious disease. STDs, such as gonorrhea, has gained precedence over the last decade due to a staggering increase in incidence rates and impact on health within societies.

          Currently, international data reveals an estimated 200 million new cases of gonorrhea occur annually. On the national level, statistics from the Centers for Disease Control and Prevention (CDC) (2018), reveal a total of 555,608 cases of gonorrhea were reported in the United States in 2017, yielding a rate of 171.9 cases per 100,000 with an increase of 18.6% from the previous year. Review of this data reveals incidence rates of gonorrhea in the state of Florida to have a reported 154 per 100,000 population in 2017 and Volusia county statistics, my local area, revealing a rate of 132.2 per 100,000 population in 2016 (CDC, 2018). According to the Florida Department of Health (2018), in 2017 the rate for gonorrhea in Volusia county was slightly higher than the state rate at 16.9 per 10,000 population compared to 15.3 per 10,000 population.

Signs and symptoms/Clinical presentation

          According to Barous and Karakashian (2018), gonorrhea is categorized based on the presence of local or disseminated infection. Local infections are reported to commonly involve urethritis in males and endocervicitis in females presenting with a purulent, discolored (yellow-greenish) discharge from the genitals. Additionally, men and women may present with symptoms such as urgency or frequency in urination, painful urination, redness and swelling of cervix and/or vulva, menstrual abnormalities, and painful intercourse. Further signs and symptoms displayed in females may include abdominal pain and fever in relation to PID. Other local symptoms include conjunctivitis and pharyngitis caused by orogenital contact and proctitis, tenesmus, bleeding, itching, and soreness caused by anal contact (Barous & Karakashian, 2018). However, these symptoms may take weeks to develop leaving most individuals unaffected and unaware of such infection. Nonetheless, if gonorrhea infections are left untreated, they could lead to serious and even life-threatening complications.

          Disseminated gonococcal infection (DGI) is a common cause of morbidity in sexually active young adults (Parks-Chapman & March, 2018). Associated symptoms that present with DGI include septic arthritis, skin lesions, asymmetrical arthralgias, and tenosynovitis. On rare occasions, meningitis and infective endocarditis has been reported to occur as a result of an untreated gonorrhea infection. According to the Office of Disease Prevention and Health Promotion (2019), untreated STDs can lead to serious long-term health consequences, especially for adolescent girls and young women. The CDC estimates that undiagnosed and untreated STDs cause at least 24,000 women in the United States each year to become infertile. Further emphasizing the importance of providing immediate interventions in individuals known or suspected to have a gonorrhea infection with implementation on preventative measures.

Management Plan

          Treatment of gonorrhea is focused on providing curative actions in the prevention of further complications and transmission of this disease. Prevention and control of STDs with guideline recommendations from the CDC involve five major strategies: accurate risk assessment and education and counseling of persons at risk on ways to avoid STDs through changes in sexual behaviors and use of recommended prevention services, pre-exposure vaccination of persons at risk for vaccine-preventable STDs, identification of asymptomatically infected persons and persons with symptoms associated with STDs, effective diagnosis, treatment, counseling, and follow up of infected persons, and evaluation, treatment, and counseling of sex partners of persons who are infected with an STD (CDC, 2015). Additionally, per the CDC (2015) guideline treatment recommendations, only one regimen, dual treatment with ceftriaxone and azithromycin, is recommended for treatment of gonorrhea in the United States.

          With ceftriaxone, common side effects such as local injection site irritation, eosinophilia, thrombocytosis, elevated AST/ALT, and diarrhea can occur. In more serious complications can occur in the form of anaphylaxis, bronchospasm, Stevens-Johnson syndrome, and toxic epidermal necrolysis warranting immediate intervention (Epocrates, n.d.). In azithromycin, diarrhea, nausea, abdominal pain, dyspepsia, dizziness and rash are common and can occur. More serious reactions to azithromycin include angioedema, anaphylaxis, cholestatic jaundice, hepatotoxicity also warranting immediate medical attention (Epocrates, n.d.). Education on side effects is imperative and patients should be informed to return to the office if symptoms of adverse reactions persist.  Follow-up recommendations by the CDC suggest that it is not warranted to test for cure after treatment, except for those with pharyngeal gonorrhea that were treated with an alternative medication. The CDC recommends a follow up in 14 days to test if treatment was successful for these individuals. Furthermore, the CDC recommends anyone treated for gonorrhea should be retested within 3 months regardless of risk modification. Assessing anxiety is essential and can often coincide with individuals experiencing an STD, thus providing emotional support and constructive feedback is a vital aspect in strengthening adherence and prevention of STDs.

Peer 2 Syphilis post

**Background**

Syphilis is a sexually transmitted disease that has been around since the 1400s. In 1495 there was a syphilis epidemic, within a few months many of the infected were deceased. The causative agent for Syphilis is the spirochete Treponema pallidum. Syphilis is widely associated with its common symptoms, including chancre/ulcer in the genital area (CDC, 2015).

**Signs and symptoms**

A primary infection with syphilis can develop into secondary syphilis which may include skin rash, mucocutaneous lesions, and lymphadenopathy. Some individuals may have contracted syphilis but have no symptoms and therefore the infection remains latent. Those with untreated latent syphilis may develop more serious manifestations later on including cranial nerve dysfunction, meningitis, stroke, acute altered mental status, and auditory or ophthalmic abnormalities (Hsu & Burstein, 2016).

**Diagnostics**

The Darkfield examination is used to detect Treponema pallidum from a sample from lesion, exudate, or tissue (Hsu & Burstein, 2016).

**Treatment**

Penicillin G, administered parenterally, is the preferred drug for treating persons in all stages of syphilis.  Longer treatment duration is required for persons with latent syphilis of unknown duration to ensure that those who did not acquire syphilis within the preceding year are adequately treated.

Individuals who have syphilis and symptoms or signs suggesting neurologic disease should have an evaluation that includes CSF analysis to rule out neurosyphilis (Workowski, 2015).

**Follow-up**

Clinical and serologic evaluation should be performed at 6 and 12 months after treatment. Serologic evaluation or Titers should be compared to value at the time of treatment. Persons who have signs or symptoms that persist or recur and those with at least a fourfold increase in nontreponemal test titer persisting for >2 weeks likely experienced treatment failure or were re-infected. For retreatment, weekly injections of benzathine penicillin G 2.4 million units IM for 3 weeks is recommended, unless CSF examination indicates that neurosyphilis (Workowski, 2015).

**Possible psychological issues**

Individuals with neurosyphilis may have psychological complications of the disease. Common symptoms with neurosyphilis include cranial nerve dysfunction, meningitis, stroke, acute altered mental status, and auditory or ophthalmic abnormalities. Additionally, any STD can have psychological complications for a patient. The patient has to cope with the fact that they have a transmittable disease, have to notify previous partner(s) of the disease (CDC, 2015).

**Side effects of medication or the disease itself**

The Jarisch-Herxheimer reaction is an acute febrile reaction frequently accompanied by headache, myalgia, fever, and other symptoms that can occur within the first 24 hours after the initiation of any therapy for syphilis.

For those with Penicillin allergies, regimens of doxycycline 100 mg orally twice daily for 14 days (Workowski, 2015).

**Local statistics for Syphilis**

Infectious Syphilis Cases, Rate per 100,000 in 2018

Florida 2,887

Duval 191

Both numbers are on the rise the past few years.

In 2015 FL-2090 and Duval 82