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Syphilis in Men that have Sex with Men
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Introduction
Syphilis rates in the United States hit an all-time high in the 1940's and 1950's with almost complete disappearance during the 1960's in conjunction with the onset of the human immunodeficiency virus epidemic (Read et al, 2015). This dramatic fall was a direct consequence of the introduction of penicillin in the 1940's, but since this decline a widely recognized resurgence of syphilis has taken place. A number of levels has been seen across the country and throughout the world that have been treated to a large extent (Chenksa et al, 2016). The syphilitic is slow to divide but is still able to evade initial host immune response and establish the initial chancr. During this early stage syphilitic organisms have been found to local infection within regional draining lymph nodes and then subsequently disseminate (Shillah et al, 2017). Within the blood and skin, innate and adaptive cellular immune responses can be seen (Shillah et al, 2017). Within the chancr leukocytes can be found and are eventually replaced by T lymphocytes which is the normal human response. Upon infection, T pallidum generates a humoral immune response where by multiple antibodies can be detected early in the infection (Cantaré et al, 2016). The blood response occurs and the antibody response is the primary means for the resolution of the primary chancr all the while diffuse distribution of spirochetes leading to advanced disease i.e. tertiary and secondary (Cantaré et al, 2016).

Significance of Pathophysiology
Understanding what minimal information we know about the pathophysiology regarding syphilis is important in the recognition, diagnosis and treatment of this infection. Having a strong breadth of knowledge will allow the practitioner to acutely recognize the need for further testing and investigation. Appropriate health history should instigate suspicion, especially in regard to sexual health history. Syphilis is primarily sexually transmitted and certain sexual behaviors place individuals at a higher risk for acquisition (CDC, 2017). Men that have sex with men bear a large burden of disease probability (Cheeks, 2016) and accounted for 63% of all primary and secondary syphilis diagnoses in 2014 (Cantaré et al, 2016). Having this epidemiological information at hand would quickly narrow the patient is prevention. Syphilis is completely preventable and can be avoided with regular testing and open sexual health dialogue. Education throughout the care of the patient can build rapport and allow the patient to open up to the provider in regards to their sexual health.

Underlying Pathophysiology
T. pallidum is an elusive bacterium that due to its inability to grow in culture, little pathophysiology is truly understood. Growth characteristics and metabolism of the bacterium are some of the partial pieces not fully understood. Initial stages of infection occur after T. pallidum has gained access to subcutaneous tissues via compromised epithelial tissue most commonly the rectum, vagina, penis and the oral cavity (Cheeks et al, 2016). The spirochete is slow to divide but is still able to evade initial host immune response and establish the initial chancr. During this early stage syphilitic organisms have been found to local infection within regional draining lymph nodes and then subsequently disseminate (Shillah et al, 2017). Within the blood and skin, innate and adaptive cellular immune responses can be seen (Shillah et al, 2017). Within the chancr leukocytes can be found and are eventually replaced by T lymphocytes which is the normal human response. Upon infection, T pallidum generates a humoral immune response where by multiple antibodies can be detected early in the infection (Cantaré et al, 2016). The blood response occurs and the antibody response is the primary means for the resolution of the primary chancr all the while diffuse distribution of spirochetes leading to advanced disease i.e. tertiary and secondary (Cantaré et al, 2016).

History: Secondary syphilis is the initial stage of infection where, most often, the hallmark chancr can be found at the site of initial entry. The chancr can be found in places not easily visualized such as the rectal and vaginal tissues. The chancers are most common round, firm and painless and appear for approximately 2-6 weeks and can go unnoticed. These chancers are where primary syphilis is spread from person to person. If unnoticed the syphilis infection transitions into the secondary stage (Janssen et al, 2015).

Secondary syphilis develops as a rush. The rash can develop while the primary chancr is still visible. The most common rash develops on either the palms of the hands or soles of the feet. This rash can extend to the entirety of the body (diffuse) and is a not a commonly seen rash (Dieste, 2016). The rash is rough and red, reddish-brown, circular spots that can be distinct or discrete. In addition to the rash, large raised white lesions called condyloma lata can develop in the warm moist areas of the body. The rash can itch, lymphadenopathy, alopea, sore throat, weight loss, fatigue and weakness (Wagenlehner et al, 2016).

Latent syphilis is a period of time where there are no signs or symptoms. Either early latent (occurring within 12 months) or late latent (occurring after 12 months).

Signs & Symptoms
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Nursing Implications
The advance practice nurse must develop a strong foundational health assessment to best serve the diverse presentation of syphilis. In high risk patient populations, such as men that have sex with men (MSM) it is essential to collect a through health history with emphasis on sexual practices. Sexual health histories can present certain cultural boundaries that the provider must traverse in order to collect an accurate report (Stahlman et al, 2015). Physical assessment of individuals may not yield a clear history so the provider must know how to best proceed when suspicion remains. Laboratory test can be done for either non-terenopreal or treponetal but more than one type of laboratory test must be performed definitively diagnosed since serologic testing can be associated with false positives (CDC, 2017). Darkfield microscopy can also be performed if a chancr is present and for sampling and if the technology is readily available. The most powerful skill to possess in the care of a syphilis patient is prevention. Syphilis is preventable and can be avoided with regular testing and open sexual health dialogue.

Conclusion
The current epidemiological climate of syphilis is “that no country has yet been able to successfully control syphilis among MSM, even in countries with high income and substantial resources, and clearly new strategies are urgently needed” (Read et al, 2015). Advance practice nurses must take on a level of responsibility in the combating of the new public health endpoints. Being a front line provider in the role of primary care, it is essential to possess adequate knowledge and skill when dealing with any infectious disease. Prevention and screening are essential in the elimination of syphilis infection but there are not easily employed in high risk populations. The advance practice nurse must accurately identify those populations and provide high quality, culturally competent care. In doing so, rapport building will commence and appropriate patient provider relationships can result.

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