Congenital Syphilis

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Congenital Syphilis
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Introduction
Despite available prevention and treatment measures, congenital syphilis is on the rise again in the United States (Su & Xiao, 2016). Congenital syphilis is caused by maternal infection during pregnancy with the bacteria Treponema pallidum, which is then transmitted to the fetus. Complications include miscarriage, stillbirth, and neonatal death, premature birth, and other anomalies in the newborn. The leading factor in congenital syphilis infection is no prenatal care (Dobson, 2016). If the syphilis infected mother is treated during pregnancy, infection of the fetus can be prevented (Su et al., 2016). Nurses and health care providers need to be well informed on the risk factors and be able to rapidly diagnose congenital syphilis so that treatment can be initiated, leading to decreased fetal and neonatal mortality.

Underlying Pathophysiology and Significance
Syphilis infection spreads from an infected person to the next when the spirochete Treponema pallidum crosses through skin or mucous membranes during sexual contact including oral, vaginal and/or anal sex. T. pallidum is a small, fragile, spirochete body that can move quickly to invade the new host. It enters the primary host through an infected lesion, and from there is capable of penetrating intact membranes or may enter the body through microscopic breaks in the skin (Kow & Lampley, 2015). Infection can also spread through blood transfusions, which is now rare due to screening processes, but still possible in early infection where blood testing may still come back negative.

If an infected woman is or becomes pregnant, T. Pallidum can cross the placenta and infect the fetus at any point during the pregnancy. Additionally, a neonate can be infected through exposure to a lesion during the birth process (Berman, 2004). Syphilis infection in pregnancy has a high rate of spontaneous abortion and stillbirth. Within a few hours of entering the host, the organism has spread through the lymphatic system and entered systemic circulation, causing widespread infection. The primary stage in which infection lesions appear can take several weeks to manifest in acquired maternal syphilis. In congenital syphilis, however, there is not a primary stage and manifestations of disease begin in the second stage. The central nervous system is typically the first area that is invaded in secondary syphilis (Dobson, 2016). In latent syphilis, the patient may be asymptomatic but will still have positive lab testing. Tertiary syphilis is rare now due to available treatment and causes neurological issues including dementia, as well as cardiovascular complications. It should be noted that syphilis infection will not progress to the next stage if treatment is initiated and successful (Mulryan, 2012).

Clinical Manifestations

| Maternal Primary Infection: | Neonatal Infection:
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>• Skin chance on the genital, oral or anal region.</td>
<td>• Hepatomegaly</td>
</tr>
<tr>
<td>• Lymphadenopathy</td>
<td>• Lymphadenopathy</td>
</tr>
<tr>
<td>Secondary:</td>
<td>• Hematological disturbances (anemia)</td>
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<tr>
<td>• Fever</td>
<td>• Hydropteral</td>
</tr>
<tr>
<td>• Lesion</td>
<td>• Skin lesions</td>
</tr>
<tr>
<td>• Headache, lymphadenopathy, skin rash and patches</td>
<td>• Rhinitis and nasal stuffiness</td>
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<tr>
<td></td>
<td>• Renal abnormalities</td>
</tr>
<tr>
<td></td>
<td>• Retinal involvement (ectochoroiditis or perinitis, can cause pain)</td>
</tr>
<tr>
<td></td>
<td>• Glaucoma and cataracts</td>
</tr>
<tr>
<td></td>
<td>• Neurological impairment</td>
</tr>
<tr>
<td></td>
<td>• Sepsis leading to death</td>
</tr>
</tbody>
</table>

Figure 1


Reference

Nursing Implications
Nurses and health care providers who work in women’s health need to be vigilant in screening for syphilis. All women should be screened during pregnancy (Follette & Clarke, 2013). In high-risk populations, testing may need to be repeated more than once during the pregnancy. When caring for a newborn, the health care provider should review maternal history and testing; if unavailable, the neonate should be tested as well. Currently, no vaccine exists to prevent syphilis. Prevention can be achieved through patient education on safe sex and the importance of early and comprehensive prenatal care.

Treatment should be initiated as soon as possible, to minimize transmission to the fetus. Sexual partners of the patient need to be treated as well to prevent reinfection (Lago, 2016). Congenital syphilis is also diagnosed through non-treponemal and treponemal blood testing. Results of the mother’s testing are used for diagnosis as well. Currently, recommended tests include cerebrospinal fluid evaluation, complete blood count, w-4 of affected bones, brain ultrasound, and liver function tests. The eyes and hearing should be evaluated for involvement. The treatment of choice is a 10-day course of penicillin (Dobson 2016).

Conclusion
Congenital syphilis occurs when T. pallidum infects a newborn from an infected mother to her unborn child. It has devastating consequences, including fetal and neonatal death. Congenital syphilis continues to pose a threat to health, but it should not. With adequate prenatal care, screening, education and treatment are available to prevent congenital syphilis. The recent increase of congenital syphilis infections demonstrates the need for increased vigilance in screening all pregnant women.

References

Trends in Congenital Syphilis, 2005-2014

Retrieved July 10, 2016 from https://microbiol.ansys.edu/education/ph/ Syphilis_in_Sub-­‐Saharan_Africa

Figure 2


Figure 3