

Infant Outcome of Maternal Syphilis Cases Diagnosed in British Columbia, Canada 2010 to 2016

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BACKGROUND:

- In British Columbia (BC), Canada, the infectious syphilis rate (primary, secondary, and early latent syphilis) was at about 0.2 per 100,000 in the mid-1990s among women.
- Since 2010, the infectious syphilis rate has increased from 0.6 to 1.4 per 100,000 from 2010 to 2016 among women in BC. About 70% of cases were women 15-39 years old raising concerns for the potential of congenital syphilis.
- Syphilis infection of a developing fetus can lead to serious complications, including prematurity, low birth weight, severe neurologic outcomes and death.

Management of Infants Born to Women with Syphilis in BC

- Consideration of treatment of at risk neonates is based on:
 - Identification of syphilis in the mother;
 - Adequacy of maternal treatment;
 - Clinical, laboratory or radiographic evidence of syphilis in the neonate.
- In most cases, it is recommended to perform a rapid plasma reagin testing (RPR) on both mother and infant at birth.
- If indicated, the recommended treatment for infants is IV penicillin for 10 days, or IM bicillin in a single dose. Repeat RPR test at 3 and 6 months or until negative.

*Management recommendations are based on Canadian Pediatric Society:
http://www.cps.ca/documents/position/congenital_syphilis

OBJECTIVE:

- To characterize infant outcomes in children born to women diagnosed with syphilis during pregnancy or early post-partum period to identify areas for improvement within our syphilis prevention efforts.

METHODS:

- >99% of all syphilis tests in BC are performed at the BC Centre for Disease Control Public Health Laboratory. Positive tests are reviewed by centrally-located expert clinicians who diagnose, stage, and recommend treatment. All clinical information collected is entered into the Sexually Transmitted Infections Information System (STI-IS), the electronic medical record system.
- Prior to July 2014, syphilis screening was performed via the non-treponemal RPR test, after which time the treponemal enzyme immunoassay (EIA) was introduced.
- Infant outcome information for all syphilis cases (primary, secondary, early and late latent) diagnosed in pregnant women (or within 90 days after delivery) from January 2010 to July 2016 were collected and analyzed descriptively.

Time from Maternal Syphilis Diagnosis to Treatment

27 treated within 4 weeks

5 ≥ 4 weeks but ≥ 30 days before delivery

3 < 30 days before delivery

3 < 60 days post-partum

1 No record of being treated

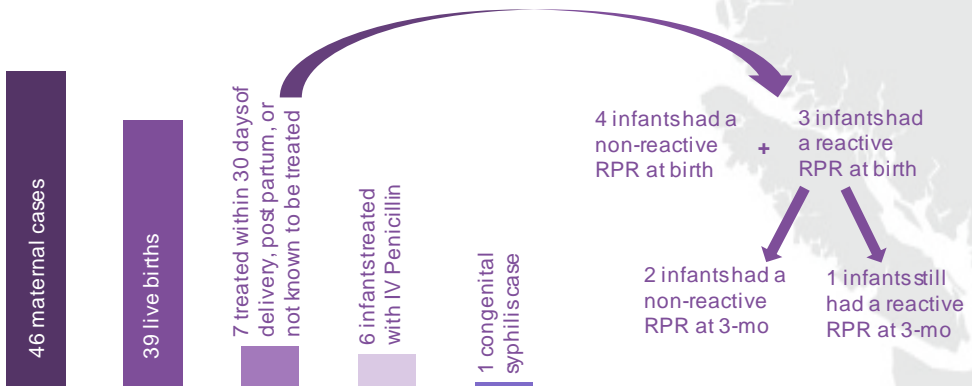
RESULTS:

- 46 maternal syphilis cases (19 early latent, 27 late latent) were reported from January 2010 to July 2016.
- Of the 46 cases, 39 had a live birth, 6 had a spontaneous or therapeutic abortion, and 1 lost her fetus due to a motor vehicle collision.
- Of the 7 infants born to mothers who were treated less than 30 days of delivery or post-partum or not treated, 6 were treated with IV Penicillin (5 at birth and 1 at 3 months). The last had no record of treatment receipt but had a non-reactive RPR at birth.
- The following were factors associated with the 7 mothers who were treated less than 30 days of delivery, treated post-partum, or did not have a record of being treated: 4 were immigrants to Canada and 1 had a history of multiple casual partners.
- One infant was reported to have congenital syphilis. The infant's mother had an RPR of 1:8 during prenatal screening. She had a history of syphilis infection and was assessed to be at low-risk for re-infection. Thus, treatment was not recommended. At delivery, the infant had a titre of 1:4 (compared to 1:16 in the mother). The titre increased to 1:128 at 3-months and the babe was treated with IV Penicillin then. A chart review indicated the mother may have been re-infected.
- The infant born to the mother who had no record of being treated received IV Penicillin at birth and had a non-reactive RPR at 3 months.

CONCLUSIONS:

- The majority of maternal syphilis cases in BC are treated shortly after diagnosis. This is likely largely responsible for the few cases of congenital syphilis in BC.
- Our findings highlight the importance of communication with providers of the risk of congenital syphilis to support prenatal syphilis screening and re-assessment for potential re-infection during pregnancy.
- Strengthening early syphilis screening among mothers born outside Canada may also be an area to focus on to help ensure adequate time for treatment before delivery.

Summary of Infant Outcomes of Maternal Syphilis Cases



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FOR MORE INFORMATION:

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