

Risk Factors for Transmission of Congenital Syphilis: A University Based Investigation

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BACKGROUND/SYNOPSIS

To examine treatment patterns of syphilis positive mothers and associated rates of congenital syphilis transmission at a single University-based institution.

OBJECTIVES/PURPOSE

This comparative study identified institutional treatment practices and their effect on the transmission of congenital syphilis during a period of national resurgence.

METHODS

This study takes place at the University of Florida – Jacksonville Health system from January 1, 2012 to December 31, 2017. Mothers diagnosed with syphilis by positive rapid plasma reagin (RPR) testing who subsequently delivered at the institution were identified. A blinded retrospective chart review was conducted to compare the cohort of neonates: 1) congenital syphilis, 2) syphilis exposed neonates, 3) syphilis non-exposed non-transmitted neonates. The primary outcome of this study was to identify treatment outcomes of syphilis positive mothers and rates of congenital transmission. Practices including treatment \geq 30 days prior to delivery with a greater than a four-fold decrease in RPR titers were reviewed. Secondary outcomes including demographics and pregnancy factors were compared between the cohorts.

RESULTS

There were 13,923 deliveries performed. Of the 107 mothers with a positive syphilis test, 36 infants were born with congenital syphilis. Maternal antepartum, intrapartum, and postpartum factors were not statistically significant across the cohorts. Factors statistically significant in congenital syphilis transmission cohort include RPR titers, prenatal care, and adequate syphilis treatment. Treatment failures of patients receiving prenatal care resulting in congenital syphilis approached 50 percent.

CONCLUSION

Treatment failures were the leading cause of congenital syphilis transmission within UF Health Jacksonville. Treatment failures most often occurred due to reinfection without treatment \geq 30 days prior to delivery or treatment without an adequate fall in titers \geq to four-fold.