STD & OTHER DISEASES IN PERINATAL WOMEN:
AN OVERVIEW OF FRESNO COUNTY

SEPTEMBER 14, 2018, CENTRAL VALLEY PERINATAL SYMPOSIUM
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PRESENTATION OVERVIEW

I. STDs
   I. Syphilis: Maternal & Congenital
   II. Chlamydia
   III. Gonorrhea
   IV. HIV

2. Zika

3. Influenza
STDS
STDS

- Critical to appropriately test & treat pregnant women for STDs
  - Access risk by obtaining information from mother: sexual partners, symptoms, high risk behaviors
  - Help prevent serious medical complications in woman & baby
  - Test early in pregnancy & close to delivery
  - The sooner treatment is started the better!
STDS
SYPHILIS
SYPHILIS

- **Infection spread through direct contact**
  - Sexual contact
  - Mother-to-child (before or during birth)
  - Can be re-infected

- **Risk factors**
  - Multiple sex partners, partner who has multiple partners, unprotected sex, HIV

- **Symptoms**
  - Can appear 10-90 days after infected (typically 3-4 weeks)

- **Treatment**
  - Antibiotics
  - Amount depends on Stage
## SYPHILIS - STAGES

1. **Primary Stage**
   - Painless sores @original site (sores may disappear within 1-5wks, disease still present)
   - Swollen glands

2. **Secondary stage (approx. 7 weeks after 1st sore appears)**
   - Rash (any part of the body)
   - Tiredness, fever, sore throat, headache, hoarseness, loss of appetite, & swollen glands
   - Symptoms last 2-6 weeks & disappear

3. **Latent**
   - No apparent signs or symptoms

4. **Late**
   - Spreads to other parts of body - skin, bones, CNS, heart, brain, eyes, joints, etc.
   - Can cause severe disability or death
SYPHILIS SCREENING IN WOMEN

- Fresno County:
  - Screen all pregnant women
    - 1st trimester
    - 3rd trimester
      - Often missed
    - At delivery if high risk
    - Treatment needs to be completed 30 days prior to delivery to protect infant
Early Syphilis Cases by Race/Ethnicity, Females, Fresno County, 2017

Figure shows:
Out of all cases, the percentage of cases for each race/ethnicity group

- American Indian/Alaskan Native
- Asian/PI
- Black
- Hispanic
- White

*Based on case counts not rates
Early Syphilis Incidence Rate in Fresno County Compared to California, 2011-2017

Figure by M. Middleton
* CA data from the California Department of Public Health, STD Control Branch
CONGENITAL SYphilis Incidence Rates in Fresno County Compared to California, 2011-2017

Figure by M. Middleton
*CA data from the California Department of Public Health, STD Control Branch
35% of congenital syphilis cases were pre-term births

Overall pre-term birth: 9.11%\(^a\)

\(^a\) Based on 2010-2016 data
TIMING OF MOTHER’S SYPHILIS DIAGNOSIS RELATIVE TO CONGENITAL SYPHILIS BIRTHS IN FRESNO COUNTY, 2017

- 30 days or less prior to delivery
- 31-60 days prior to delivery
- More than 60 days prior to delivery

Need to complete treatment 30 days prior to delivery
STDS
CHLAMYDIA
CHLAMYDIA

- **Transmission:**
  - Sexual contact
  - Can pass to baby during delivery

- **Test & Treat:**
  - Prenatal CDC Recommendation:
    - Screen 1st prenatal visit & 3rd trimester if <25 years or high risk
    - Test-of-cure 3-4 wks after treatment & retested w/in 3m.
    - Easily treated but reinfection common

- **Perinatal Implications:**
  - Strong associations with infertility & ectopic pregnancy
  - Possibly associated with miscarriage, preterm labor, stillborn, & low birth weight
  - Neonatal ocular infection and pneumonia

- Test & treatment best way to prevent health problems
PROPORTION OF CHLAMYDIA
SEX AND YEAR IN FRESNO COUNTY

Females
Males

Figure by M. Middleton
*2017 data is preliminary and subject to change
Age-specific Chlamydia incidence rate in Females, Fresno County, 2017

- 35+: Small incidence rate
- 30-34: Medium incidence rate
- 25-29: Medium to high incidence rate
- 20-24: High incidence rate
- 15-19: Low incidence rate

Incidence rate per 100,000 persons
Chlamydia Cases by Race/Ethnicity, Females, Fresno County, 2017

*Based on case counts not rates
Chlamydia incidence rate in Females, Fresno County, 2013-2017

Year of Diagnosis

Incidence per 100,000 persons

2013 2014 2015 2016 2017
Chlamydia Confirmed Cases in Females by Pregnancy Status for Fresno County, 2013-2017
STDS
GONORRHEA
GONORRHEA

- **Transmission:**
  - Sexual contact
  - Can pass to baby during delivery
  - Common in young people 15-24

- **Test & Treat:**
  - Prenatal CDC Recommendation:
    - Screen 1st prenatal visit <25 years or high risk
    - Rescreen 3rd trimester if high risk
  - Most women don’t have symptoms or mild & mistaken for bladder/vaginal infection

- **Perinatal Implications**
  - Scarring of fallopian tubes, ectopic pregnancy, infertility, pelvic pain

- Test & early treatment best way to prevent health problems
PROPORTION OF GONORRHEA
SEX AND YEAR IN FRESNO COUNTY

2013 2014 2015 2016 2017

% of Cases

Gonorrhea

Females

Males

*2017 data is preliminary and subject to change

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Age-specific Gonorrhea incidence rate in Females, Fresno County, 2017

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Figure by M. Middleton
Gonorrhea Cases by Race/Ethnicity, Females, Fresno County, 2017

*Based on case counts not rates
Gonorrhea Confirmed Cases in Females by Pregnancy Status
for Fresno County, 2013-2017
HIV
HIV

- **Transmission**
  - Body fluids: Blood, semen, rectal fluid, vaginal fluids, & breastmilk
    - Fluids contact with mucous membranes, damaged tissue, or injection into bloodstream
  - Mother-to-Child: pregnancy, childbirth, & breastfeeding

- **Test**
  - CDC Recommendation-
    - 1st visit: Screen all pregnant women
    - 3rd trimester: Rescreen high risk women
HIV

Preventing Mother-to-Child Transmission

- Medicate
  - Mother HIV medication
    - Reduce viral load
    - Crosses placenta
  - Give infant HIV medicine 4-6 weeks after birth
- Possibly C-Section may be needed
- In US, recommendation is to avoid breastfeeding
  - Proper medication/care can reduce risk of transmission to 1-2% or less
  - Test new pregnancies to try to catch early
Rates of Perinatally Acquired HIV Infections in US Infants by Year of Birth and Mother’s Race/Ethnicity, 2010-2014

Figure Source: Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas, 2015. HIV Surveillance Supplemental Report 2017;22(2).
ZIKA HISTORY

Newly emerging infectious disease

1947 ID Animals

1952 Evidence in humans

2007 Outbreak, Federated States of Micronesia

2014 Americas

2015 Brazil Outbreak

2017 2,143 US cases

Only 14 ZIKA related illness reported prior to 2007

Small state of Yap, 73% of residents infected

WHO Declared outbreak & international concern
ZIKA

Signs and Symptoms
- Only 20% have symptoms
  - Fever, rash, arthralgia, conjunctivitis
  - Guillain-Barré syndrome

Routes of Transmission
- Knowledge limited
- Mosquito bite, congenital infection, sexual contact, blood transfusion, & lab/health care settings exposure
- Can transmit through sex even when no symptoms present
  - ZIKA RNA found in semen 6m after infection
- Virus has been isolated in breastmilk but currently no reports of infants infected
Pregnancy & Infants

- Risks: Miscarriages, stillbirth, & birth defects
  - Microcephaly, severe brain abnormalities, abnormal eye development, clubfoot or inflexible joints, hearing loss
  - Possible risks associated with Periconceptional exposure
- Congenital Zika syndrome
  - Distinct pattern of birth defects: Severe microcephaly w/partially collapsed skull, decreased brain tissue, damage to eye, joint issues, too much muscle tone
  - Not all infants have obvious birth defects, impairments can show later in the infants life
  - Virus continues to replicate in infant brain after birth
ZIKA

Prevention
- In areas with local transmission
  - Protection against mosquitos
    - Covering skin, repellents, mosquito nets, eliminate standing water/breeding grounds
  - Safe sex
    - Current CDC guidelines: use a condom @least 6 months male partner & 8 weeks female partner exposed
- Pregnant women
  - Avoid travel to @ risk areas
  - Test women with symptoms or possible exposure
ZIKA CASES (AS OF DEC 2017)

- **Who is at risk:**
  - Currently trying to better understand the illness & risks
  - Anyone not previously exposed
  - High risk:
    - Areas active local transmission from mosquitos -> human
    - Sexual partner infected

**US**
- 2,143 cases
- 102 live births w/defects
- <10 pregnancy loses w/defects

**Fresno County**
- has had confirmed, suspected, or probable cases in pregnant women reported

*ZIKA became reportable in 2016*
INFLUENZA
INFLUENZA

- Pregnancy women more at risk for severe illness & complications
- Recommendation:
  - Inactivated vaccine regardless of trimester
  - Prompt treatment in cases
*ILI= Influenza-like illness

Source: https://www.ca.fresno.ca.us/departments/public-health/community-health/immunization-program/flu-information
Figure 1. Trend of flu vaccination coverage before and during pregnancy and prevalence of provider recommendation / offer or no recommendation for vaccination among women pregnant anytime October through January, Internet panel survey, United States, 2010-11 through 2015-2016 flu seasons

REFERENCES AND RESOURCES

- All Fresno County Tables & Figures were developed by the Fresno County Department of Public Health, Epidemiology team
  - Special thanks to Epidemiologists, Matt Middleton and Bee Vang
- California state data from:
  - California Department of Public Health STD Control Branch
- US data from: HIV Surveillance Supplemental Report and CDC
- Good Informational Sites:
  - ZIKA - http://pediatrics.aappublications.org/content/141/Supplement_2/S137
  - CDC
    - https://www.cdc.gov/std/chlamydia/stdfact-chlamydia.htm
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THANK YOU