Varicella Investigation

Rutherford County Health Department, Smyrna

Thursday, August 13th

- **Breast Feeding Class** scheduled at Smyrna HD with **24 attendees** presenting.
- Attendees waited in small health department lobby prior to start of class.
- After attendees were registered, they were brought back to classroom.

- No primary care patients were scheduled, but immunizations were available.
- 2 children, new to U.S. from Central America, were present to receive routine school immunizations.
- 7 yo noted to have scattered vesicles with some crusted lesions. Mom admitted to child having a few days of fever and respiratory symptoms. Diagnosis of Chicken Pox was made.

Waiting Room – 2 connected 10’ x 7’ areas

* part of ill child played by Dr. Lori Macdonald, Regional Health Officer

Chickenpox and Pregnancy

- **Spreads from person to person by direct contact or through the air from an infected person's coughing or sneezing.**
- A person with chickenpox is **contagious 1-2 days before the rash appears and until all blisters have formed scabs.**
- **Incubation** period is **10-21 days** after exposure.
- Pregnant women who get chickenpox are at risk for serious complications. For example, **10-20% of pregnant women who get chickenpox develop pneumonia, with the chance of death as high as 40%.**
- If a pregnant woman gets chickenpox while in the **first or early second trimester** of pregnancy, there is a **small chance (0.4 – 2.0%)** that the baby could be born with birth defects known as **"congenital varicella syndrome."** Babies born with congenital varicella syndrome may be of low birthweight and have scarring of the skin and problems with arms, legs, brain, and eyes.
- **Newborns whose mothers develop chickenpox rash from 5 days before to 2 days after delivery are at risk for chickenpox shortly after birth, with the chance of death as high as 30%.**

- **www.cdc.gov**

24 Class Attendees

- 3 First Trimester (5 – 11 weeks)
- 8 Second Trimester (14 – 23 weeks)
- 10 Third Trimester (27 – 35 weeks)
- 3 Post-Partum

Evidence of Protection Against Chicken Pox

- Documentation of two doses of varicella vaccine
- Blood test showing immunity to varicella (IgG)
- Diagnosis or verification by a health care provider of a history of chickenpox or herpes zoster (shingles)

www.cdc.gov

24 Class Attendees

- 3 First Trimester (5 – 11 weeks)
  - 1 patient with h/o 1 vaccination
- 8 Second Trimester (14 – 23 weeks)
  - 1 patient with h/o 2 vaccinations
- 10 Third Trimester (27 – 35 weeks)
  - 1 patient with h/o 1 vaccination
  - 1 patient with h/o 2 vaccinations
- 3 Post-Partum
  - 1 patient with h/o 2 vaccinations

Investigation

- Clinic staff immediately began contacting pregnant attendees with a h/o less than 2 varicella vaccinations
  - Patients were advised to come in for a varicella titer (varicella IgG) to establish immune status
  - DIS and CDC staff assisted in locating hard to find attendees
  - UCR assisted with testing one attendee who lived in north TN
- Dr. Kelly Moore @ Central Office was consulted by MCRO for guidance

3 First Trimester Attendees

- Countries of origin – US x 2, Iraq x 1
- All 3 with immunity evidenced by varicella titer (IgG)

8 Second Trimester Attendees

- Countries of origin – US x 4, Honduras x 1, Iraq x 1, Laos x 1, Thailand x 1
- 1 with h/o 2 vaccinations
- 5 with immunity evidenced by varicella titer (IgG)
  - 1 (22 weeks) in hospital in preterm labor
- 1 not located
- 1 (15 weeks) with no immunity evidenced by varicella titer (IgG)

10 Third Trimester Attendees

- Countries of origin – US x 6, Egypt x 1, Guatemala x 1, Mexico x 2
- 1 with h/o 2 vaccinations
- 9 with immunity evidenced by varicella titer (IgG)

Post Exposure Prophylaxis

- **VariZIG**
  - Varicella Zoster immune globulin preparation for **postexposure prophylaxis** of varicella **for persons at high risk for severe disease who lack evidence of immunity to varicella and for whom varicella vaccine is contraindicated**
  - Purified immune globulin preparation made from human plasma containing high levels of anti–varicella-zoster virus antibodies (immunoglobulin G)
  - The only varicella zoster immune globulin preparation currently available in the United States.

- www.cdc.gov

Post Exposure Prophylaxis

- Administration as soon as possible following varicella-zoster virus exposure, ideally within 96 hours (4 days) for greatest effectiveness
  - Administration can be effective up to 10 days post exposure.

- www.cdc.gov

Outcome

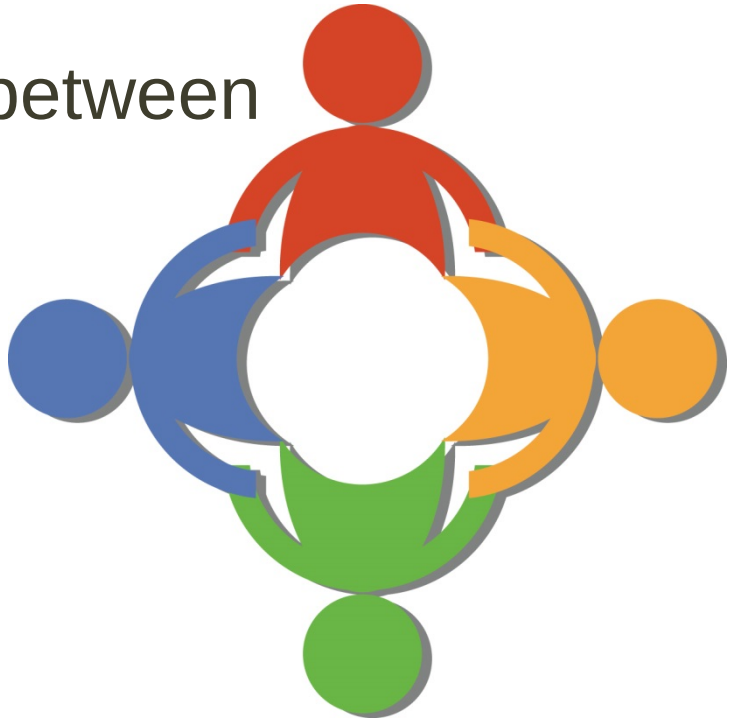
- Within 7 days, 20 out of 21 pregnant contacts were located and vaccination status or status of immunity was verified.
- One non-immune contact (not US born) was identified
- On day 8 post-exposure prophylaxis was administered in the form of VariZIG ($$$$) (shipped overnight from distributor in CA) to the one non-immune patient.

Successes

- Rapid clinic staff response
  - identifying probable contacts
  - Identifying gestation of contacts
  - Identifying immunization status of contacts (PTBMIS, TennIIS)
  - Effectively communicating risks to contacts while alleviating fears

Successes

- Intra-regional teamwork among Smyrna HD staff, county DIS, regional CDC staff
- Inter-regional teamwork between UCR and MCR
- Teamwork between MCR and Central Office



Lessons Learned/Reinforced

- Contacts will not always answer phones that identify the caller as a governmental entity
- Social networking sites (Facebook) can be very helpful in locating contacts
  - Facebook messaging could have been utilized.
- Baby gift registries can help with locating pregnant contacts.
- Vaccination $ < Treatment $