UTAH DEPARTMENT OF HEALTH

Increased Incidence of Early Onset Group B *Streptococcus* Infections in Utah

Background

Group B *streptococcus (*GBS) is a leading infectious cause of infant morbidity and mortality resulting in both early and late onset invasive disease in infants. Early onset GBS (EOGBS), defined as isolation of GBS from a normally sterile site in a live-born infant less than seven days old, is the focus of an ongoing public health investigation by the Utah Department of Health (UDOH). The investigation focuses on confirmed cases (n =70) from January 2015 through July 2018, analyzing data from UT-NEDSS (Utah's public health surveillance system), vital records, medical records, and lab protocols. During this time period, the Utah EOGBS incidence was 0.40 cases per 1,000 live births, compared to the national incidence of 0.22 cases per 1,000 live births. Cases peaked in 2015 (n =24; 0.47 cases per 1,000 live births) with one case resulting in death. From January 2015 through July 2018, UDOH confirmed a total of seven EOGBS deaths, resulting in a mortality rate of 10%, almost double the national EOGBS mortality rate of 5.5%. Four of these deaths occurred in 2018.

Preliminary results of the investigation identified only two full-term cases with no maternal GBS screen. However, 31 cases had clear indications for intrapartum antibiotic prophylaxis (IAP), and only 11/31 (35.5%) received adequate IAP. The majority of these cases, 19/31 (61.3%), received no or inadequate IAP. One case had unknown administration of IAP.

In addition, 39/70 cases (55.7%) were born to mothers with a lab confirmed GBS negative screen. This is lower than the national average of 60%. UDOH received laboratory records for 16/39 mothers who were GBS negative. The investigation found that 5/16 (31%) mothers were screened for GBS using an incorrect specimen source or collection technique.

Below are preliminary recommendations based on our investigation. A detailed report of the investigation, including findings and recommendations, will be available early 2019.

Recommendations for Clinicians

- Follow CDC guidelines for collecting screening swabs; screening swabs should collect both vaginal and rectal samples.
- Encourage all pregnant women known to be GBS+ to present to the hospital at the onset of labor to ensure adequate IAP for ≥4 hours.
- Where available, consider intrapartum NAAT (e.g., PCR) testing for GBS if the maternal GBS status is unknown and there are no other indications for IAP, as recommended by the CDC.
- Administer Intrapartum antibiotic prophylaxis (IAP) adequately; adherence to adequate IAP will decrease both infant morbidity and mortality. See Table below for IAP indications. Visit https://www.cdc.gov/groupbstrep/guidelines/downloads/recommended-regimens.pdf for recommended IAP regimens.
- Always consider GBS in the differential diagnosis for early onset sepsis, even in newborns whose mothers had a GBS-negative screen.

For more information about the above recommendations, refer to the CDC's guidelines, "Prevention of Perinatal Group B Streptococcal Disease" found at: https://www.cdc.gov/groupbstrep/guidelines/guidelines.html.

Additional information about GBS is also available on the Utah Department of Health website at: http://health.utah.gov/epi/diseases/streptococcal_infections_groupB/.

Indications and non-indications for intrapartum antibiotic prophylaxis to prevent early-onset group B streptococcal (GBS) disease
(https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5910a1.htm?s_cid=rr5910a1_w)

Intrapartum GBS prophylaxis indicated	Intrapartum GBS prophylaxis not indicated
• Previous infant with invasive GBS disease	• Colonization with GBS during a previous pregnancy (unless an indication for GBS prophylaxis is present for current pregnancy)
• GBS bacteriuria during any trimester of the current pregnancy*	• GBS bacteriuria during previous pregnancy (unless an indication for GBS prophylaxis is present for current pregnancy)
• Positive GBS vaginal-rectal screening culture in later gestation† during current pregnancy*	• Negative vaginal and rectal GBS screening culture in late gestation† during the current pregnancy, regardless of intrapartum risk factors
• Unknown GBS status at the onset of labor (culture not done, incomplete, or results unknown) and any of the following: – Delivery at <37 weeks' gestation – Amniotic membrane rupture ≥18 hours – Intrapartum temperature ≥100.4°F (≥38.0°C)¶ – Intrapartum NAAT** positive for GBS	• Caesarian delivery performed before onset of labor on a woman with intact amniotic membranes, regardless of GBS colonization or gestational age

Abbreviation: NAAT = Nucleic acid amplification tests

*Intrapartum antibiotic prophylaxis is not indicated in this circumstance if a caesarean delivery is performed before onset of labor on a woman with intact amniotic membranes.

†Optimal timing for prenatal GBS screening is at 35–37 weeks' gestation.

¶If amniotitis is suspected, broad-spectrum antibiotic therapy that includes an agent known to be active against GBS should replace GBS prophylaxis.

**NAAT testing for GBS is optimal and may not be available in all settings. If intrapartum NAAT is negative for GBS, but any other intrapartum risk factor (delivery at <37 weeks' gestation, amniotic membrane rupture at ≥18 hours, or temperature ≥100.4°F (≥38°C) is present, then intrapartum prophylaxis is indicated.

Source: CDC, November 2010

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