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Nevertheless, the newborn had a stormy course and died of respiratory failure. The mother's condition eventually corroborates our guess that the decreased variability was most likely caused by the MgSO4 and the fetus' immaturity.

Outcome:

The prematurity and EFW are concerning, but there is very little chance that the fetus would improve if left progressing. Diastolic BP of 125 is ominous. The headache and scotoma are both symptoms of cerebral involvement.

This case demonstrates several important points about the management of preeclampsia. The fact that she had had the antiphospholipid syndrome for several years increases the likelihood that both the APS and the preeclampsia were progressing. Diastolic BP of 125 is ominous. The headache and scotoma are both symptoms of cerebral involvement.

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Ten key elements are provided: “Clinicians should:

1. Promote and support successful breastfeeding.
2. Establish nursery protocols for the identification and evaluation of hyperbilirubinemia.
3. Measure the serum bilirubin or transcutaneous bilirubin level on infants jaundiced in the first 24 hours.
4. Recognize that visual estimation of the degree of jaundice can lead to errors, particularly in darkly pigmented infants.
5. Interpret all bilirubin levels according to the infant’s age in hours. Recognize that infants at less than 24 hours age are more likely to jaundice.
6. Interpret the data of all bilirubin levels in infants and recognize the need for close follow-up and laboratory risk assessment.
7. Perform a systematic assessment on all infants before discharge for the risk of severe hyperbilirubinemia.
8. Provide parents with written and verbal information about newborn jaundice.
9. Provide appropriate follow-up based on the time of discharge and the risk assessment.
10. Treat newborns when indicated, with phototherapy or exchange transfusion loss.

The primary recommendations emphasize universal systematic assessment of the baby’s jaundice and intervention when indicated using methods that are safe, effective, efficient, timely, patient-centered, and equitable.

First and foremost among the seven main recommendations is “Clinicians should advise mothers to nurse their infants at least 8-12 times per day” while additionally stating “the AAP recommends against routine supplementation of dehydrated breast-fed infants with water or dextrose water.”

There is a strong support of the Institute of Medicine recommendations for creating systems which are intentionally safe and uniformly apply the appropriate policies to all patients rather than allowing professionals to be educated in an area in every case. In the case of neonatal hyperbilirubinemia these systems might include:

1. The development of evidence-based protocols for management of jaundice, including testing TSB and TSB levels, without requiring physician orders.
2. Checking of clinicians with risk factors, age, discharge, and laboratory test results that provide guidance for the most appropriate follow-up.
3. Exclusive educational materials for parents (a key component of all AAP guidelines) concerning the identification of newborns with jaundice.

Finally, The AAP wants to underscore the following messages:

1. Prevention goes hand in hand with appropriate follow-up. If the importance of follow-up care is universally understood by physicians, mothers, and fathers, it will help to prevent problems.
2. Although newborn jaundice is a common problem, its management is quite complex and there are different ways of providing excellent and safe care.
3. Every pediatrician wants to provide the best possible care for children. Pediatricians have different styles of practice. While there is a good deal of flexibility in the guideline, it states that it professionals should be consistent and not be overly preventative. Attorneys will no doubt notice this statement. Pediatricians should have good reasons to depart from these recommendations.

Endnotes


Additional resources:

- Stanely Ip, Joseph Lau, Mei Chung, John Kulig, Robert Sege, Stephanie Sabin, and Rebecca Y. O'Brien
- Hyperbilirubinemia and Kernicterus: 50 Years Later
- Pediatrics, Jul 2004; 114: 665 - 669
- Vinod K. Bhutani, Lois Johnson, and Emidio M. Sivieri
- Pediatrics, Jul 2004; 114: 665 - 669
- Pediatrics, Jun 2004; 113(6), 2004. Available at: www.pediatrics.org/cgi/content/full/113/6/1362
- Tina M. Slack, Estephy L. Ango, Fidelia Bode-Thomas, Francis Akr, Sunday P. Damm, Adelotun A. Adedeji, Donald W. McDonald, Ronald J. Wong, Hendrik J. Veerman, and David K. Staschke
- Dan D. Nguyen, Gunther G. Beischer, Cathie O. Geary, Chery Jackson, Deborah Talbot, and Raywin Huang
- Vinod K. Bhutani, Glenn R. Gourley, Saul Adler, Bill Kreamer, Chris Steppler, and Dan L. Johnson
- Noninvasive Measurement of Total Serum Bilirubin in a Multiracial Predescribed Newborn Population to Assess the Risk of Severe Hyperbilirubinemia
- Pediatrics, Aug 2000; 106: e17
- M. Jeffrey Maisels, Enrique M. Ostrea, Jr, Suzanne Touch, Sarah E. Cuneo, Eugene Capella, Phillip A. Freda, Mark A. Faro, Carmen G. Kreyer, Chery Jackson, Deborah Talbot, and Raywin Huang
- Firmin F. Rubaltelli, Glenn R. Gourley, Norbert Lockamp, Neema Moti, Thomas M. Reinecke, and William W. Frawley
- William D. Engle, Gregory L. Jackson, Dorothy Sendelbach, Denise Manning, and William H. Frawley
- Coy D. Tomlinson, Linda B. Eccles, Stressan C. Pineda, Eric J. Dzirasa, and Robert J. Kozek-Dobrzanski
- EFM Strip Tracker – With Warren Crosby, M.D., Perinatologist, Department of OB/GYN, OUHSC

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**Strip A**

- FHR: 135 bpm
- Uterine activity: Mild
- Amniotic fluid index (AFI): 5

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**Strip B**

- FHR: 135 bpm
- Uterine activity: None
- Amniotic fluid index (AFI): 5

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**Strip C**

- FHR: 135 bpm
- Uterine activity: Mild
- Amniotic fluid index (AFI): 5
EFM Strip Teaser—Comments

No uterine activity is apparent. That should be verified by TOCO adjustment, palpation and patient sensation. The decreased variability is worrisome, but may be attributed to the fetus’ gestational age and the MgSO4. The late-appearing decelerations (by shape—they cannot be timed as late since there are no apparent contractions) are repetitive and indicate possible fetal hypoxia. This FHR tracing is nonreassuring.

Discussion:

The findings on this strip would ordinarily indicate the need for immediate C/S. But, the fetus is only 26 weeks with an EFW of about 500 grams, the limit of viability today. The more important concerns in this case are maternal. The patient was very close to developing eclampsia. She may be alive today because of the prompt hospitalization and immediate medical therapy.

This case demonstrates several important points about the management of preeclampsia. The fact that she had had the antiphospholipid syndrome for several years increases the likelihood that both the APS and the preeclampsia were progressing. Diastolic BP of 125 is ominous. The headache and scotoma are both symptoms of cerebral involvement. The prematurity and EFW are concerning, but there is very little chance that the fetus would improve if left in utero. The maternal mortality in this type of situation is approximately 5-10%. The appropriate treatment is to stabilize the preeclampsia and proceed to end the pregnancy. In this case, the nonreassuring FHR tracing prompted a decision for cesarean section instead of labor induction.

Outcome:

The fetus was delivered by C/S. Cord gases revealed a pH of 7.2, B.E. of 9.5. The lack of metabolic acidosis corroborates our guess that the decreased variability was most likely caused by the MgSO4 and the fetus’ immaturity. Nevertheless, the newborn had a stormy course and died of respiratory failure. The mother’s condition eventually stabilized after delivery.