Fetal Monitoring: Dilemmas, Decisions, Documentation

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Objectives

• Use NICHD terminology to describe selected tracings/document findings
• Verbalize appropriate interventions/documentation strategies for selected tracings
• Discuss national/local protocols related to fetal monitoring in unusual circumstances

BTW…The authors have no conflicts to disclose

TeamSTEPPS

• SBAR
• Callout
• Cross check
• Check back
• Situational awareness
• Debrief

SBAR

A standardized way of communicating that shares patient information in a concise and structured format: evidence-based practice which promotes patient safety

Situation: “Hi Dr. Jones, I am calling about Ms. Smith, in LDR 4, who is a G1P0 at term for IOL.

Background: She has been on 16mu of Pit and contractions are every 1.5-2 minutes

Assessment: The baby is having recurrent variables to 80 BPM. I turned off the pit, repositioned her, and gave her a fluid bolus.

Recommendation: I need you to review the tracing; when can I expect you?”

OB Patients

Situation

Background

Assessment

Recommendations

Call-Out

A strategy used to communicate important or critical information to the team
• It informs all team members simultaneously during emergency situations
• It helps team members anticipate next steps

During second stage pushing, a Call-Out: “Patient is having a prolonged deceleration X 4 minutes”
Cross-Check

Closed-loop communication strategy used to verify a request is received. Sender initiates request or message, receiver confirms he/she has received the request.

- Validates a request by the team leader of team member

  Example: Neeta, the chief resident says: "Jane, please send umbilical cord blood gases."
  
  Jane, the team member cross-checks: "Neeta, I will get the cord gases."

Check-Back

A communication loop involving a sender initiating the message, a receiver accepting the message and providing feedback that the task has been completed.

Example:

  Resident asks the nurse (call-out): "Mary, call anesthesia for an epidural."

  Mary cross checks by saying: "I am calling for Anesthesia."

  Mary checks back: "I called Anesthesia and they're on their way."

Closing the Loop to create Effective Team Communication

Receiver confirms action was completed

Receiver accepts message, provides feedback confirmation

Check-Back

Systematic description of EFM information

- Baseline
- Variability
- Accels
- Decels
- Ctx pattern
- Evolution of tracing
- Interventions
- Team Discussion

Intraoperative Fetal Monitoring During Nonobstetric Surgery

- More than 50,000 pregnant women undergo nonobstetrical surgery each year
- 46% increased incidence of preterm birth with lower gestation weights and higher incidence of neonatal death
- Literature is sparse

Nonobstetric Surgery
Nonobstetric Surgery

- "The greatest value of intraoperative FHR monitoring is that it allows for the optimizations of the maternal condition if the fetus shows signs of compromise."
- "An unexplained change in FHR mandates the evaluation of maternal position, blood pressure, oxygenation, and acid-base status and inspection of the surgical site to ensure that neither surgeons nor retractors are impairing uterine perfusion." (Naughton & Cohen 2004)

Nonobstetric Surgery

- "Intraoperative FHR monitoring is rarely used to assess the well-being of fetuses younger than the age of viability (24 weeks)."
- "The advantages of assessing FHR in a nonviable fetus are similar to those for a viable fetus."
- "Observing the FHR may assist the anesthesiologist in selection, dose and mix of anesthetic agents, or it may indicate the need for a simple intervention of position change or wedging of the uterus." (Inturrisi 2000)

Fetal Heart Rate Responses to Anesthesia

- Decrease in FHR variability
- Decrease in FHR baseline 10-25 bpm
- Decelerations do not usually appear unless maternal oxygenation or circulation is compromised
- Unresolved bradycardia
- Repetitive late decelerations

Intraoperative Fetal Monitoring

- Ultimate purpose of intraoperative fetal monitoring is to promote an optimum fetal environment
  - Maternal status
  - Pharmacological factors
  - Surgical maneuvers

Recommendations

- Primary obstetric care provider should be involved in the plan for surgery
- If that healthcare provider is not at the institution where surgery is to be performed, another obstetric care provider with privileges at that institution should be involved.
- If fetal monitoring is to be used, consider the following recommendations:
  - Surgery should be done at an institution with neonatal and pediatric services.
  - An obstetric care provider with cesarean delivery privileges should be readily available.
  - A qualified individual should be readily available to interpret the fetal heart rate patterns.
Recommendations

• General guidelines for fetal monitoring include the following:
  • Preivable gestation assess fetal heart rate by
  • Doppler before and after the procedure.
  • Viable gestation simultaneous electronic fetal heart rate and contraction monitoring should be performed before and after the procedure to assess fetal well-being and the absence of contractions.

Recommendations

Intraoperative electronic fetal monitoring may be appropriate when all of the following apply:

• Viable fetus
• Physically possible to perform intraoperative electronic fetal monitoring during the procedure
• A health care provider with obstetric surgery privileges is available and willing to intervene during the surgical procedure for fetal indications
• Informed consent to emergency cesarean delivery should be obtained
• The nature of the planned surgery will allow the safe interruption or alteration of the procedure to provide access to perform emergency delivery

Blunt Abdominal Trauma

• MVA
• Fall
• Physical abuse

Blunt Abdominal Trauma

• Assess for maternal injuries co-management with ED
• Fetal monitoring
• Ultra sound
• CBC, Coag studies
• Kleihauer-Betke
• Rhogam if Rh negative

Fetal Monitoring

• Viable pregnancy
  • 4 hours continuous fetal monitoring
  • May discharge after 4 hours if all of the following criteria are met:
    • Uterine contractions less frequent than 1 in 10 minutes
    • Absence of vaginal bleeding
    • Absence of abdominal pain
    • Reactive NST reassuring fetal heart rate pattern
  • 24-hour period of monitoring for women with any of the following:
    • Abdominal bruising or other obvious injury
    • Uterine/abdominal pain
    • Regular contractions
    • Vaginal bleeding
    • Nonreactive NST
    • Maternal hypertension (systolic >140 mm Hg or diastolic >90 mm Hg)
    • Rhogam if Rh negative

Fetus or Mother?
Case Review

- 28 year old G4 P2 @35 6/7 weeks
- Admitted for substance abuse in pregnancy and methamphetamine dependence
- Prior history
  - 2 spontaneous vaginal births
  - History of hypertension with first pregnancy
  - Long history of polysubstance dependence
  - Alcohol dependence
  - Heroin use in the past
  - One cocaine overdose in the past

Case Review

- Current Pregnancy
  - No prenatal care
  - Denies any problems with this pregnancy
  - Positive UTOX: Meth
  - Sustained tachycardia, SOB and dry cough
  - Anemia
  - Imaging supports possible pulmonary embolus placed on heparin therapy

- Vital signs on admit:
  - BP 128/100, P 142, R 17, O2 sat 97%
  - Normal H&P
  - NST reactive
  - Urine trace protein
  - HCT 32.2, platelets 372
  - Suspended PE
  - EKG normal

Case Review

- 1900 BP 148/119 P 139 R 22 O2 98%
- 1901 BP 124/102 P 137 R / O2 97%
- 2000 BP 126/102 P 135 R 24 O2 98%
- 2044 BP 138/113 P 135 R / O2 98%
- 2045 Provider "present" notified of high BP's. New orders obtained
- 2049 Provider writes orders
**Case:**
- 33 yr old G2P0
- 39+2 weeks
- IVF pregnancy
- AFI 5.1
- CE: 6/90/0 on admission
- Progressed to C/C/+1 in 2 hours
- Began pushing

**Antenatal EFM**
- Categories I, II, III apply to intrapartum EFM
- Tracing description same with exception of 'category'
- Baseline
- Variability
- Accels/decels
- Ctx
- Interventions

**Systematic description of EFM information**
- Baseline
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**TeamSTEPPS**
- SBAR
- Callout
- Cross check
- Check back
- Situational awareness
- debrief

**Event Debrief**
A simple, powerful conversation session after an event where the team shares and reflects on the event

**Objective:** to continuously improve future team performance, as well as identify systems issues that could contribute to adverse events

**Guidelines for a Debrief**
- Hold the debrief as soon after the event or shift as possible, preferably before the team has left the area
- Get as many members of the team as possible to participate in the debrief
- Keep in mind the goals and philosophies of the debrief
- Model and lead the team through describing behaviors that supported key teamwork principles: team formation, leadership, situation monitoring, mutual support, and communication
- Maintain a climate conducive to communication and respect while exploring what could have happened better
Guidelines for a Debrief

- Watch for members having difficulty with the event. They may need further structured debriefing with their work supervisor or with a mental health provider.
- Respect the team’s time. Spend only the time needed to accomplish the debrief (5-10 minutes).
- Designate Team Member to file incident report to report “event debrief held”
- Do NOT document the Team Event QI Debrief in the patient medical record.
- Risk Management/QI follow up with designated Team Member for “lessons learned.”

Debrief Structure

Leader introduces the debrief and assists/encourages staff to respond:

- Example, “We are going to do a quick QI debrief of this event. It should only take a few minutes. Our goal is to improve our communication and review the systems we have in place.”
- Let’s start with a description of the events and what happened. What went well and should be repeated in the future?”
- “Ok, what didn’t go so well? What made it tough to get done what we needed done? What should be avoided in future events”

Debrief Structure

- After staff have discussed what went well/not so well, problem solving may occur:
  - Example, “How can we do better next time?”
  - What would help with the challenges we described?
  - What would you do differently?
  - What are your insights / personal observations that could help others?
  - What topics did we miss that should be discussed?”
- Finish positively
  - Example, “I appreciate you all taking some time to help the team do better in the future. I’m glad I work with a group so interested in making us stronger as a team.”

Questions?