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INTERMITTENT AUSCULTATION VS ELECTRONIC FETAL MONITORING IN LABORING PATIENTS

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Background

Fetal health surveillance in the intrapartum period is standard practice for inpatient laboring women. The objective of fetal health surveillance, or FHS, is to monitor for possible fetal distress so that appropriate interventions can be identified and implemented (Dore, 2020). Fetal hypoxia and acid-base imbalances are rare but potential complications during the labor process. Multiple morbidities and mortality are associated with sustained fetal hypoxia reinforcing the importance of FHS during the labor process to ensure adequate fetal oxygenation (Dore, 2020).

The two forms of fetal heart surveillance or intermittent auscultation (IA) or electronic fetal monitoring (EFM). IA includes determining a baseline fetal heart rate and then conducting assessments at timed intervals. The assessments includes listening with a device like a doppler and counting after a contraction for 30-60 seconds to detect whether or not the rate is consistent with the baseline. Listening for fetal heart rate accelerations (increase of 15 beats or more about the baseline lasting at least 15 seconds) or decelerations (decreases of at least 15 beats per minute for at least 15 seconds) is also part of IA. If decelerations are heard, further assessment is required (Dore, 2020). EFM can be conducted externally with two monitors (one for the fetal heart rate and one that measures contractions) or internally with a fetal scalp electrode that is placed on the fetal scalp. An intrauterine pressure catheter may or may not be used to measure contractions with the placement of a fetal scalp electrode. EFM provides a continuous tracing of the fetal heart rate and the uterine contraction pattern (Arnold & Gawrys, 2020).

Problem

In healthy laboring women, how does the use of Intermittent auscultation, compared to continuous monitoring, affect fetal and maternal outcomes?



Review of Literature

Title: Intrapartum Fetal Monitoring

Purpose: This review compared the two forms of fetal heart surveillance during labor and the positive and negative outcomes associated with each.

Method: A meta-analysis of 45 studies with data extraction.

Results: Continuous fetal monitoring has a false positive rate of 99% for cerebral palsy, hypoxic-ischemic encephalopathy, and fetal death and a false positive rate of 66% for fetal acidosis detection. Continuous electronic fetal monitoring has a low sensitivity (57%) and specificity (69%). Patients who receive continuous electronic fetal monitoring versus intermittent auscultation were 20% more likely deliver via cesarean section.

Conclusion and Evidence Level: Intermittent auscultation is an underutilized method of fetal heart surveillance and can reduce operative and cesarean deliveries. Evidence level V.

Title :Effectiveness of intrapartum fetal surveillance to Improve Maternal and Neonatal Outcomes: a Systematic Review and Network Meta-analysis.

Purpose: The goal of this study was to determine if using IA instead of continuous monitoring reduces emergency cesarean deliveries without increasing adverse neonatal and maternal outcomes.

Method: The authors used a network meta-analysis of randomized trials evaluating various intrapartum fetal surveillance methods.

Results: All studies conducted head-to-toe comparisons of 2 fetal surveillance methods. It included 33 trials, with sample sizes ranging from 100-47,062. A systematic review was conducted and then assessed using the Cochrane risk of bias assessment tool. Intermittent auscultation significantly reduced the risk of instrumental deliveries compared with all other fetal surveillance (IA v STG: RR 0.41, 95% CI 0.30-0.57).

Conclusion and Evidence Level: Out of the various surveillance methods used in this study IA reduced the risk of cesarean deliveries and emergency cesarean deliveries compared with other methods. Evidence level I.

Title :Monitoring Combination of Intermittent Auscultation and Palpation of Contractions on Oxygen Saturation of Newborns

Purpose: This study aims to determine the differences in the results of oxygen saturation in newborns whose mothers were monitored using intermittent auscultation verses continuous monitoring

Method: Through an observational cross-sectional approach on 36 newborns in 2 groups one using AI the other continuous monitoring. SpO2 was monitored for both groups and APGAR scores were given.

Results: The study concluded that there was no difference in SpO2 of babies from either group. With a P value of 0.887>0.05.

Conclusion and Evidence Level: Continuous monitoring and intermittent auscultation yielded the same results for APGAR scores saturation levels. Evidence level IV.

Next Steps

- For Intermittent auscultation to become common practice several things need to take place in order to make this happen. First would be to educate the entire team (Nurses, Obstetricians, midwives, unit leaders and even the patients) using evidence-based resources on the effectiveness of IA. (Dore, 2020). Guidelines on how to use it successfully should be created and implemented. (Dore, 2020)
- Using a team-based approach everyone involved should be educated as well as trained on the use and appropriateness of using IA.(Dore, 2020)
- IA is not always appropriate for every patient and risk factors should be considered when using IA. (Dore, 2020)
- Patients should also have autonomy in their care; therefore, they should be educated on the use of IA as well as given the choice of which monitoring they would prefer. (Dore, 2020)
- The essential element in making this all happen is to have leadership support and advocacy onboard. Nurses should advocate for their patients if they feel that the patient is a good candidate for IA and a discussion should be had between the provider, patient and nurse. (Dore, 2020).
- Midcoast Hospital has the resources for this to happen. A policy is already in place, yet not often utilized. To make this more of a common practice nurses need to assess their patients to see if they are a candidate for IA. If the patient is a candidate, we as nurses need to bring this to the patient and the providers attention and make a team decision on what would be best for the patient.
- The nursing staff will be educated at the next staff meeting of these findings and the current policy will be reviewed with the end goal being to increase intermittent auscultation for eligible patients.

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