Stillbirth Prevention & Fetal Movement Counting

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Stillbirth

- A death that occurs at 20 weeks or more gestation
- 26,000 stillborns/year U.S.
- 1/150 pregnancies
- 6.5/1000 pregnancies

Comparison

- Gestational Diabetes 1/30 pregnancies
- Hypertension 1/20 pregnancies
- Down syndrome
  - 30 yo 1/1000 pregnancies
  - 35 yo 1/400 pregnancies
- Stillbirth 1/150 pregnancies
Comparison

- 70 stillborns/day compared to SIDS 7 infants/day
- 10 fold

Comparison

- Do you talk to your patient about stillbirth?
- Do you assess your patient for stillbirth risks?
- Why NOT?

Stillbirth

- More than 50% stillbirths happen after 28 weeks and most of those happen after 36 weeks in otherwise healthy, low-risk pregnancy
Stillbirth Risk Assessment

- Risk assessment unexplained stillbirths
  - Obesity
  - Advanced maternal age
  - Low social economic status
  - Infertility
  - Black race
  - Decreased fetal movement

What about prevention?

Fetal Movement (FM)

- Maternal perception of fetal movement
- Fetal movement is considered an indicator of fetal well-being
- Decreased fetal movement constitute 5-10% presenting complaints
MOMS Study
- Maternal Observation and Memories of Stillbirths
- 5000 stillbirth moms

MOMS Study
- 50% women perceived gradual decreased fetal movement several days prior to death
- 56% women reported decreased FM as the first reason to believe baby is not doing well

How to manage decreased FM?
- FEMINA (Fetal Movement Intervention Assessment study)
- Multi-center trial
- Optimize management of decreased FM by assessing differences in practice and outcome
FEMINA

- 13,000 deliveries Boston area hospitals
- 500 women reported decreased fetal movements.

FEMINA

- Patients with decreased FM were 4 times more likely to have stillbirth compared to patients who did not
- Forty-four percent had IUGR
- Fretts 2006

Recommendation

- Educating patients on the importance of FM to reduce the delay of intervention
- Educating providers that an assessment of fetal growth status should be included in the evaluation of patients with decreased FM
Can stillbirth be prevented?

Kick Counting
- 1970’s and 1980’s Use of counting charts significantly reduced stillbirth rates
- Simple, effective, harmless and reliable way to screen fetal well-being during the third trimester in both low-risk and high-risk pregnancies.

Grant Study
- 1989 Lancet randomized controlled study
- 68,000 women
- Kick count charts were ineffective in reducing stillbirth rate
- Halted research
Kick Counting Revisited


Kick counting revisited

- Reviewed the methodology and re-analyzed conclusion of the 1989 study
- Reviewed studies on fetal movement counting in predicting outcome and reducing stillbirth rates

Kick Counting Revisited

- Potential effect on perinatal outcome may be masked by the “contaminated” control
- Both providers and patients were aware of the importance of decreased fetal movement
Kick Counting Revisited

- Because of heightened FM awareness, both the control and the studied groups together have a lower stillbirth rate than other population baseline rate
- 30% decrease in stillbirth rate

Missed opportunity

- In the counting group, about 10% of unexplained late fetal deaths were successfully predicted by the charts
- These women were admitted but were sent home due to false reassurance from fetal testing or clinical error

Conclusion

- Reduced fetal movements are associated to adverse pregnancy outcome, both in high and low risk pregnancies.

- Froen 2004
Conclusion

➢ The use of fetal movement charts in a population decrease the stillbirth rate, in particular, those deemed avoidable

➢ Froen, 2004

FEMINA

➢ Pregnancies with decreased fetal movement are at increased risk for adverse pregnancy outcomes including fetal growth restrictions and stillbirths.

Fretts, 2006

Implications

➢ Mothers also may be picking up on signs of fetal distress that are not noted during non-stress tests.

➢ Another missed opportunity? Perhaps a reassuring non-stress tests is not enough
Implications

- Perhaps stillbirth with IUGR is not a sudden event and that there is a window of time for intervention

Why talk about kick counting?

- Kick counting in mass media
- Patients with stillbirths often feel outraged to find out afterwards about kick counting
- Clear kick counting instructions lead to less calls and visits

Kick Counting Message

- FM typically takes less than 30 minutes
- KC promotes bonding with baby
- Maternal anxiety is alleviated understanding of fetal sleep cycles
- KC empowers mom to be part of the medical team
ACOG Recommendation

- Daily kick count when fetus is usually most active
- Healthy baby should have 10 FM in less than 2 hours
- Notify provider for significant changes in normal FM pattern or it takes longer than 2 hours

Summary

- Pregnancies with decreased FM are at increased risk for adverse pregnancy outcomes including fetal growth restrictions and stillbirths
Summary

- Educate mothers about FM in an effort to avoid delay intervention
- Evaluate decreased FM with growth assessment

Summary

- Perhaps stillbirths with IUGR are not "sudden" suggesting that there is a window of time for intervention

Kick Counting

- Simple, effective, harmless and reliable way to screen fetal well-being during the third trimester in both low-risk and high-risk pregnancies.
What is going on?

- Is kick counting for stillbirth prevention what "back to sleep campaign" for SIDS?

What is going on?

- MISS Foundation
- SIDS Alliance/First Candle
- Heinz Foundation Public Service Announcement
- "Counts the Kicks" campaign
- BabyKick Foundation