Induction for Macrosomia?

What is the data?

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Suspicion and Treatment of the Macrosomic Fetus: a Review

How well can we identify the macrosomic fetus?

- Non-diabetic women
  - Ultrasound: 15-79% (average about 50%)
  - Clinical: 40-52%
- Diabetic women
  - Ultrasound: 60-80% (more prevalent)

Conclusions

- Non-diabetic women
  - There is sufficient evidence that suspected macrosomia is not an indication for induction or for primary cesarean birth
- Diabetic women
  - Delivery of a macrosomic fetus can have increased rate of complications, but there is insufficient evidence about the threshold of estimated fetal weight for cesarean birth.

CMQCC: Transforming Maternity Care
The macrosomic fetus: a challenge in current obstetrics (Review)


- In pregnancy, limited weight gain, especially in obese women, seems to reduce the risk of macrosomia
- Prediction of fetal macrosomia remains an inaccurate task even with modern ultrasound equipment
- There is little evidence that routine elective delivery (induction or cesarean section) for the mere reason of suspected macrosomia should be employed in a general population
Expectant management versus labor induction for suspected fetal macrosomia: a systematic review.


- Based on data from observational studies, labor induction for suspected fetal macrosomia results in an increased cesarean delivery rate without improving perinatal outcomes.
- In two small RCTs the increased CS was not seen, but no benefits were seen.
To induce or not to induce labor: a macrosomic dilemma


- Compared outcomes in >4kg births
  - 20% (n=951) were induced
  - 80% (n=3,804) were not

- Infant outcomes were the same

- More women had CS with induction (RR=1.6  p<0.001) which remained after multivariate analysis
Elective induction versus spontaneous labor after sonographic diagnosis of fetal macrosomia


- All patients with an US EFW >90%tile
  - 115 had spontaneous labor and 44 had elective induction with macrosomia as the sole indication (those induced for additional reasons were excluded)
- Cesarean section for the induced women was 57% vs. 31% with spontaneous labor
- Shoulder dystocia was 5.3% (1 case) in the induced group and 2.5% (2 cases) in the spontaneous labor group
Labor induction with a prenatal diagnosis of fetal macrosomia


- Matched control study
  - 53 non-diabetic patients who underwent induction for fetal macrosomia
  - Matched to the next non-diabetic patient delivering a child of equal or greater birth weight who entered labor spontaneously

- Cesarean rate in the induced group was significantly increased: 36% v. 17%, despite a lower average birth weight for the induced group.
Induction of labor versus expectant management in macrosomia: a randomized study.


- 279 women with an EFW of 4000-4500gm were randomized to induction or expectant management.
- Induction of labor for suspected macrosomia at term did not decrease the rate of cesarean delivery or reduce neonatal morbidity (shoulder dystocia, brachial plexus injury or IVH).
- Ultrasonic estimation of fetal weight between 4000 and 4500 g should not be considered an indication for induction of labor.
Suspected macrosomia? Better not tell


- Compared the outcomes of >4kg infants in two groups
  - Those that the obstetrician diagnosed
  - Those that the obstetrician did not

- Outcomes
  - Much higher induction and CS rates than those not labeled as macrocosmic
  - The sensitivity was 23% and Positive predictive value was 43%
Fetal macrosomia: does antenatal prediction affect delivery route and birth outcome?


- Retrospective review of 504 births >4200gm
  - 102 were diagnosed as macrosomia before birth and 402 were not diagnosed
- Cesarean section for the predicted group was 52% vs. 30% for the non-predicted group
- The increased CS rate appeared to be related to failed inductions
- No differences in the rates of shoulder dystocia or neonatal injury
Ultrasonographic prediction of fetal macrosomia. Association with cesarean delivery


- Retrospective cohort study compared:
  - 135 patients whose US predicted EFW > 4000gm BUT actually were under 4kg
  - 129 patients whose US correctly predicted EFW under 4kg
- Cesarean section for the wrongly predicted group was 42% vs. 24% for the correctly-predicted group (all with the same birth weight)
- The increased CS rate appeared to be related to failed inductions
- No differences in the rates of shoulder dystocia or neonatal injury
Does labor induction for suspected fetal macrosomia affect the risk of shoulder dystocia or brachial plexus injury?

…Labor induction in a woman who does not have diabetes for the sole indication of suspected macrosomia has not been shown to be effective in decreasing the occurrence of shoulder dystocia or decreasing the rate of cesarean delivery.
The Elimination of Non-medically Indicated (Elective) Deliveries Before 39 Weeks Gestational Age: Overcoming Barriers--Ideas for Leaders

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While many hospitals are off to a good start on this project, some have encountered barriers…

1. Physician resistance
2. Data collection
Barrier 1: Physician Resistance

Drivers:
- Physician autonomy (philosophy)
- Structure of the medical staff (rotating Chairs)
- Low level of administrative commitment
- Sign of the times (high anxiety about the future and change)
It takes special skills to herd cats...
It is no longer herding cats…

It’s Aligning EAGLES!
Why are doctors like cats?

- Aloof
- Independent
- Generally don’t travel in groups
- Don’t show emotion
- Always show up for food

- Autonomy
Transforming Maternity Care

Attacks on Autonomy

• Insurer’s review of our care plans
• Calls for public reporting of errors and quality indicators
• Steadily increasing oversight of our documentation, billing, and clinical management
• Government legislation on care and even CME’s!
• Clamor to do better policing of our own
Individual clinical autonomy is an important cause of the sometimes suboptimal performance in the timely and consistent application of clinical science; thus, it contributes to the decline in overall professional autonomy.
But what is the Zen part?

Physicians must give up some autonomy in order to regain it.
Loss leads to Grieving

• **Denial**: “This isn’t my data” “I can’t believe the administrative data!” “We don’t have a problem!”

• **Anger**: “It's not fair!”; ”You can’t do this to me!"; “I will take my patients and leave for the next hospital!”

• **Bargaining**: "I understand this will happen, but if I could just have more time…”

• **Depression**: “Why bother, they are just going to screw me anyway!”

• **Acceptance**: ”If I can't fight it, I may as well prepare for it."

Diffusion of Innovation

- The classic study analyzing the adoption of change (new ideas or practices) among individuals and organizations.
- Synthesis of research from over 500 diffusion studies.
- Many of the studies focused on the adoption of agricultural or medical practices, recently applied to technology adoption.
- Below is his categorization of how people adopt change.

![Diagram illustrating the diffusion of innovation phases: Innovators (2.5%), Early Adopters (13.5%), Early Majority (34%), Late Majority (34%), Laggards (16%).](Image)

Recently cited for technology but can be any change

Adopter characterization on the basis of innovativeness

Source: Everett Rogers Diffusion of Innovations model
Diffusion of Innovation
Acceptance of a QI project

Convincible:
Respond to data at GR
Offer little opposition

QI Leaders:
Enthusiastic
Know the literature
Champions for change

Followers:
Will agree if a majority accepts
Sometimes fickle

Die-hards:
“I know best” (autonomy)
Refuse all oversight
Can be very resistant

In a department, proportion varies from 0 to ~20%

Adopter characterization on the basis of innovativeness

What kind of Resistance is “Out There”?  

1. Autonomy

● “I am a Board Certified OB/GYN, I can do what I want.” “No one should ever look over my shoulder.”

● Resistance to “Cookbook” medicine

● Clearly outdated thinking BUT reflective of underlying anxiety about loss of control and autonomy

● Lack of understanding that standardization of care improves patient outcomes
What kind of Resistance is “Out There”?

2. Chair Uncertainty

- “As Chair, I am uncomfortable with telling another physician what she can or can not do with her patient.” “Am I responsible if something bad happens to the patient if she is not delivered according to the private doctor’s desires?” “What will my malpractice carrier say?”

- Of note most of the “Hard Stop” reports in the literature have been where there is a hospital-based physician involved who can “take the heat”.
What kind of Resistance is “Out There”?

3. Lack of Consensus

- In general, we like to use logic and literature to build a consensus (and sometimes “shame” for being an outlier) rather than directly forcing a doctor to follow a rule.

- So then what should happen if a doctor absolutely refuses to follow the guideline?
What about Absolute Refusers? (1)

- Assuming that your physicians are not working within an employment model, there are several options:
  - It is important to not allow the few physicians to affect the majority. Physician level data can be very persuasive (but more work)—it can show how much an outlier the one or two doctors are. Accurate data is critical—if the data is wrong everyone loses credibility.
  - A few months of using “Scouts’ Honor” (“Soft stop”) can show the entire department how a few can spoil the outcomes and stats for all (unless they really are good Scouts!!)
  - At that point, it is usually an easier sell for a hard stop
What about Absolute Refusers? (2)

- Even if the department Chair/leaders does not feel strong enough for a clinical standard/hard stop, they can increase the “hassle factor”:
  - They can require every physician write a full note in the chart describing why they took this action
  - Require that all patients sign a full consent before induction/Cesarean before 39wks without a medical indication that describes the neonatal risks
  - Have all cases reviewed in Perinatal Committee and require formal letters returned that go into their Medical Staff file

- The department Chair can use physician–level data on this measure for OPPE (JC requirement)
What about Absolute Refusers? (3)

- A key influence in many hospitals has been the Director of the Nurseries (Neonatologist or Pediatrician)
  - They are the champions for babies
  - They can come up with examples of poor outcomes and hopefully some stats
  - It is much harder to go up against the “baby’s doctor” than another obstetrician
  - This actually should be an early step…
Barrier 2: Data Collection

- CMQCC has a data collection and reporting initiative for this measure currently in testing, set to be released in May 2011.
  - Uses linked administrative data sets (93%)  
  - Minimizes the chart review needs—only 7% chart reviews  
  - Will also provide sub-measures to help guide QI e.g. “I have a high rate, what do I do next?”:
    - % medical complications; % moms under 39wks  
    - % inductions <39wks (uncomplicated moms)  
    - % CS <39wks (uncomplicated moms)
Professional Leadership Key
For “Elective Delivery Prior to 39 weeks”

- ACOG has taken an active role
  - Letters of support and active leadership from multiple ACOG Districts. National has been supportive (This project builds on an ACOG guideline since 1979…)

- March of Dimes publishing the Toolkit and support materials

- State Health Departments

- Need MD/RN Leadership Training!!!