

Landmark Studies in Obstetrics and Gynaecology (2) – Changing our Mindset

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COMMENTARY

I was reading “Mindset” by John Naisbitt and found the theme especially relevant in our clinical practice of obstetrics and gynaecology¹. Very often, we resist changes as we are often fixed in the manner of our practices i.e. mindset. But in this medico-legal climate, our clinical practice must increasingly be influenced by evidence-based medicine. In the midst of dense fog of uncertainty, we must still guide our patients out by the safest route. And our guiding light must be the up-to-date evidence of clinical practice. But it is equally important for us to differentiate trends from fads, breakthroughs from fashionable practices.

In continuation of the series on landmark studies for OBGYN, I have included two important aspects of OBGYN in this second series that have revolutionize our practice – management of term breech and vaginal birth after caesarean section.

Breech presentation occurs in 3-4 % of term pregnancy. As a medical student, I remembered memorizing the criteria for a trial of term breech delivery ie frank breech, estimated foetal weight between 2500 and 3600g, flexed head and adequate maternal pelvis. I even witnessed a few term breech deliveries elegantly performed then. However, breech delivery has become a historical art since the Term Breech Trial (TBT), especially amongst the young obstetricians².

TBT has been of interest to 3 types of obstetricians: those who believed that they should be doing caesarean section for breech pregnancies (TBT confirmed their practice); those who were uncertain how the breech foetus should be delivered (TBT gave them clear guidance about what they should do), and

those who believed that they should be delivering term breech babies by vaginal delivery². The latter group of obstetricians has been most disappointed and vociferous about the findings.

In TBT, planned Caesarean Section confers 70% reduction of perinatal mortality, neonatal mortality, or serious neonatal morbidity for term breeches compared to breech vaginal delivery². Because of the strength of the evidence, these findings have been incorporated into national guidelines such as those from the American College of Obstetrics and Gynecology³. However, the 2-year study of TBT had become available and we await future discussion and recommendation on the term breech delivery⁴.

As our local Caesarean Section rates are on the rise across all institutions, trial of vaginal birth after Caesarean (VBAC) is a concern amongst all obstetricians. There remain no randomized trials to compare a trial of labor with elective repeated cesarean delivery for women with a prior cesarean delivery. There would probably be none even in future due to ethical concerns.

This study of more than 20,000 women with a single prior caesarean delivery compared the risk of uterine rupture among women who underwent elective repeated caesarean delivery with that among women with spontaneous onset of labor and attempted vaginal delivery from 1987 to 1996⁵. The rate of uterine rupture associated with the spontaneous onset of labor was significantly higher than that associated with repeated caesarean delivery without labor (5.2 per 1000 vs. 1.6 per 1000). Among the 91 women with uterine rupture, there were five perinatal deaths (5.5 percent), as compared with a perinatal mortality rate of 0.5 percent among women who did not have uterine rupture.

Adding this important data to those available from other observational studies, the consistent result is that elective repeated caesarean delivery is associated with less perinatal risk than a trial of labour. However, the remaining issues of the increased risks of placenta previa and placenta accreta for pregnancies

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subsequent to elective repeated caesarean delivery remain critical in the counseling to our patients for trial of VBAC.

Some people will consider the estimated 588 caesarean deliveries needed to prevent a severe adverse perinatal outcome to be a reasonable number, whereas others will consider the perinatal risks associated with a trial of labour small and well worth taking for the benefit of a vaginal delivery. Ultimately, risk, like beauty, is in the eye of the beholder⁶.

1. MANAGEMENT OF TERM BREECH

TITLE:

Planned caesarean section versus planned vaginal birth for breech presentation at term: a randomised multicentre trial. Term Breech Trial Collaborative Group. Hannah ME, Hannah WJ, Hewson SA, Hodnett ED, Saigal S, Willan AR. *Lancet*.2000 Oct 21;356(9239):1375-83.

BACKGROUND

For 3-4% of pregnancies, the fetus will be in the breech presentation at term. For most of these women, the approach to delivery is controversial. We did a randomised trial to compare a policy of planned caesarean section with a policy of planned vaginal birth for selected breech-presentation pregnancies.

METHODS

At 121 centres in 26 countries, 2088 women with a singleton foetus in a frank or complete breech presentation were randomly assigned planned caesarean section or planned vaginal birth. Women having a vaginal breech delivery had an experienced clinician at the birth. Mothers and infants were followed-up to 6 weeks post partum. The primary outcomes were perinatal mortality, neonatal mortality, or serious neonatal morbidity; and maternal mortality or serious maternal morbidity. Analysis was by intention to treat.

FINDINGS

Data were received for 2083 women. Of the 1041 women assigned planned caesarean section, 941 (90.4%) were delivered by caesarean section. Of the 1042 women assigned planned vaginal birth, 591 (56.7%) delivered vaginally. Perinatal mortality, neonatal mortality, or serious neonatal morbidity was significantly lower for the planned caesarean section group than for the planned vaginal birth group (17 of 1039 [1.6%] vs 52 of 1039 [5.0%]; relative risk 0.33 [95% CI 0.19-0.56]; $p < 0.0001$). There were no

differences between groups in terms of maternal mortality or serious maternal morbidity (41 of 1041 [3.9%] vs 33 of 1042 [3.2%]; 1.24 [0.79-1.95]; $p = 0.35$).

CONCLUSION

Planned caesarean section is better than planned vaginal birth for the term foetus in the breech presentation; serious maternal complications are similar between the groups.

2. MANAGEMENT OF VAGINAL BIRTH AFTER CAESAREAN SECTION

TITLE:

Risk of uterine rupture during labor among women with a prior cesarean delivery. Lydon-Rochelle M, Holt VL, Easterling TR, Martin DP. *N Engl J Med* 2001;345:3-8.

BACKGROUND

Each year in the United States, approximately 60 percent of women with a prior cesarean delivery who become pregnant again attempt labor. Concern persists that a trial of labor may increase the risk of uterine rupture, an uncommon but serious obstetrical complication.

METHODS

We conducted a population-based, retrospective cohort analysis using data from all primiparous women who gave birth to live singleton infants by cesarean section in civilian hospitals in Washington State from 1987 through 1996 and who delivered a second singleton child during the same period (a total of 20,095 women). We assessed the risk of uterine rupture for deliveries with spontaneous onset of labor, those with labor induced by prostaglandins, and those in which labor was induced by other means; these three groups of deliveries were compared with repeated cesarean delivery without labor.

RESULTS

Uterine rupture occurred at a rate of 1.6 per 1000 among women with repeated cesarean delivery without labor (11 women), 5.2 per 1000 among women with spontaneous onset of labor (56 women), 7.7 per 1000 among women whose labor was induced without prostaglandins (15 women), and 24.5 per 1000 among women with prostaglandin-induced labor (9 women). As compared with the risk in women with repeated cesarean delivery without labor, uterine

rupture was more likely among women with spontaneous onset of labor (relative risk, 3.3; 95 percent confidence interval, 1.8 to 6.0), induction of labor without prostaglandins (relative risk, 4.9; 95 percent confidence interval, 2.4 to 9.7), and induction with prostaglandins (relative risk, 15.6; 95 percent confidence interval, 8.1 to 30.0).

CONCLUSION

For women with one prior cesarean delivery, the risk of uterine rupture is higher among those whose labor is induced than among those with repeated cesarean delivery without labor. Labor induced with a prostaglandin confers the highest risk.

REFERENCES

1. John Naisbitt. *Mind Set, 1st Edition, 2006. New York, HarperCollins.*
2. Hannah ME, Hannah WJ, Hewson SA, Hodnett ED, Saigal S, Willan AR. *Planned caesarean section versus planned vaginal birth for breech presentation at term: a randomised multicentre trial. Lancet 2000 Oct 21;356(9239):1375-83.*
3. *Committee on Obstetric Practice, ACOG committee opinion: number 265, December 2001. Mode of term single breech delivery, Obstet Gynecol 2001; 98: 1189–1190.*
4. *Scherjon SA van Roosmalen J. Breech presentation at term: the Caesarean Section that is routinely advised is ultimately not safe for the child. Ned Tijdschr Geneesk 2005; 149(40):2204-6.*
5. *Lydon-Rochelle M, Holt VL, Easterling TR, Martin DP. Risk of uterine rupture during labor among women with a prior cesarean delivery. N Engl J Med 2001;345:3-8. Michael F. Greene. Vaginal Birth after Cesarean Revisited. N Engl J Med 2004; 351:2647-2649.*