

Is vaginal breech delivery safe option?: Analysis of 50 vaginal breech delivery in Zainoel Abidin and Ibu Anak Hospital Banda Aceh in 2011

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Abstract. There were conflicting results about the success of vaginal breech delivery. Descriptive data about the success of vaginal breech delivery was needed in every institution. This research was conducted in Zainoel Abidin and Ibu Anak Hospital, Banda Aceh in order to analyze the success of vaginal breech delivery as well as the outcome of mother and babies. There were 50 vaginal breech deliveries in Zainoel Abidin Hospital during the study. The success of vaginal breech delivery was determined by the outcome of babies, the perinatal mortality and Apgar score of the babies. Vaginal breech delivery was more likely successful for babies whose birth weight 2000-3000 grams, between 35-40 weeks of gestational age, and singleton. Factors support the increase likelihood for the success of vaginal birth were adequate amniotic fluid, multiparity, and previously bigger baby that was delivered vaginally. We conclude that factors contribute the success of vaginal breech delivery were influenced by the birth weight, gestational age, parity, and amniotic fluid volume. However, since the number of subject was limited, further study with bigger sample size was needed.

Keywords: Vaginal breech delivery, Apgar score, perinatal mortality

Introduction

There are many controversies in managing patients with breech presentation. Several studies support vaginal breech delivery in selected cases while others aggressively planned elective cesarean section in every woman with breech presentation. Hannah et al¹ mentioned high incidence of perinatal mortality in vaginal breech trial. Hannah et al's trial had been used by many advanced countries to stipulated policies of planned cesarean section in the management of breech presentation. But Hannah et al had been argued by many expert groups in term of methodology of the study. Many studies showed that planned vaginal delivery in selected case resulted in similar outcome of planned cesarean section. Guidelines of breech delivery supported that not all of breech presentation should be managed by cesarean section. Selected criteria for women who underwent vaginal breech delivery ensured the vaginal breech delivery to be a safe option. Selection included parity, fetal weight, progress of labor, availability of skillful birth attendant, hospital based setting with available neonatologist, neonatal intensive care, anesthesiologist, as well as 24-hours-operating theater.

In this study we reviewed 50 cases of vaginal breech delivery that happened in our hospitals. We analyzed the outcome of vaginal breech delivery so hopefully we acknowledged data what selection criteria that was safest and could influence the decision making of breech delivery policy.

Materials and Methods

This study was done in subjects who underwent vaginal breech delivery in Zainoel Abidin and Ibu Anak General hospital from January 2011 until October 2011. There were 50 subjects reviewed and analyzed. In our hospital policy, the criteria for undergoing vaginal breech delivery were estimated fetal weight less than 4000 grams, good progress in labor (defined as progress of cervical dilatation > 1 cm/1 hour), either in frank breech or complete breech presentation, and footling presentation who came on the second stage of labor so that it was impossible to pursue cesarean section.

We defined the outcome of vaginal breech delivery to be successful, failed, as well as poor. Successful outcome if the baby in breech presentation can be delivered vaginally. From those who were successful we also analyzed whether the baby needed to be treated in neonatal intensive care, its duration of stay in neonatal intensive care, or whether the baby was rooming-in with his mother, We defined failed outcome if there was dystocia or failure to progress in active phase of labor so that we decided to undergo emergency cesarean section. Poor outcome was defined as mortality of the baby because of intra-partal hypoxia caused by head entrapment.

Result and Discussion

There were 50 subjects who underwent vaginal breech delivery. The age of subject ranged from 16 years old until 41 years old. There was one neonatal mortality caused by head entrapment. The case was Mrs N, 29 years old, Gravida 2 Para 1 40 weeks of gestational age. She had delivered baby girl 2200 grams on her first child. The progress of labor run smoothly but on the second stage of labor there was dry labor and head entrapment. Lack of amniotic fluid became one important factor in selecting patients who underwent vaginal breech delivery. The baby boy was born died after more than 15 minutes head entrapment, male baby, 3000 grams. From 50 vaginal breech delivery, there was one neonatal mortality case, there were two failed vaginal breech delivery that proceeded to cesarean section, and 47 cases were delivered vaginally. From 47 cases delivered vaginally there were three cases where the baby was treated to neonatal intensive care unit (NICU) or more than 24 hours. The data was shown on the Table 1.

Table 1. Data among subject with successful vaginal breech delivery, failed vaginal delivery and with neonatal mortality

Demographic data	Successful vaginal delivery (n=47)	Rooming-in baby (n=45)	Observed in NICU (n=2)	Failed vaginal delivery (underwent emergency cesarean section) (n=2)	Neonatal mortality caused by head entrapment (n=1)	Total case (n=50)
Gravida						
Primigravida	7			0	0	9 (18%)
Multigravida	38			2	1	41 (82%)
Gestational age						
≤ 40 wga	39			0	1	41 (82%)
>40 wga	6			2	0	9 (18%)
Baby birthweight						
1500 g-2000 g	3			0	0	3 (6%)
2001 g-2500 g	11			0	0	12 (24%)
2501 g-3000 g	21			0	0	21 (42%)
3001 g-3500 g	10			0	1	11 (22%)
3501 g-3999 g	0			0	0	0(0%)
≥4000 g	0			2	0	0 (0%)
Presentation						
Frank breech or complete breech	42			2	1	47 (94%)
Footling (2nd phase of labor)	3			0	0	3 (6%)

The result showed that most of subjects who underwent vaginal breech delivery were multigravida. Only 9 subjects (18%) were primigravida. It might be caused by strict selection vaginal breech delivery which selected primigravida to undergo elective cesarean section than planned vaginal breech delivery. All of subjects who failed vaginal breech trial were more than 40 weeks of gestational age, with baby weight \geq 4000 grams. Dystocia or lack of progress in vaginal breech delivery was caused by fetopelvic disproportion. We should reviewed and re-analyzed our estimated fetal weight if there is suspicion fetopelvic disproportion in the case of lack of progress in labor. Most of subjects who succeeded vaginal breech delivery were 40 weeks of gestational age or less. No induction was recommended so if the pregnancy was more than 42 weeks, the management would be likely by elective cesarean section. Two subjects who failed vaginal breech delivery in this study were more than 40 weeks of gestational age. It might be hypothesized that if there is occurrence of fetopelvic disproportion, labor would be longer than 40 weeks of gestational age. Most of the subjects who succeeded in vaginal breech delivery were those with fetal birth-weight ranged from 2501-3000 grams (42%) and 2001-2500 grams (24%).

The success and failure of vaginal breech delivery was based on fetal birth-weight, instead of parity. From this study, two subjects who failed vaginal breech delivery were

multipara with birth-weight of 4000 grams. Multiparity women can fail vaginal breech delivery when the history of previously born baby was smaller than this pregnancy. Those two subject who failed had delivered babies less than 3500 grams in the past, but somehow in this pregnancy, the baby birth-weight was 4000 grams and that resulted in vaginal breech delivery failure. Parity might influenced the outcome of the baby where all baby who needed to be treated in NICU were delivered from Primigravida. One baby weight 3250 grams and other baby weight 2280 grams. The two babies were delivered from primigravida patients who asphyxiated at the first minutes and observed in NICU for several days. It was also similar with the case of neonatal mortality, where it happened in multiparity woman with history of delivering baby smaller than this pregnancy. We can summarize that the safest vaginal breech delivery happened in multigravida women with fetal birthweight smaller than previous cephalic or breech vaginal delivery. The fetal weight which was safest in vaginal breech trial ranged from 2000-3000 grams, so that primigravida can undergo safe vaginal breech delivery if the fetal birthweight ranged from 2000 grams-3000 grams.

Conclusion

Vaginal breech delivery was still a safe option for primigravida with fetal birth weight ranged from 2000 grams until 3000 grams and multigravida with the history of delivering larger baby vaginally. The progress of labor should be assessed. When there is lack progress of labor, suspicion of fetopelvic disproportion should be thought and estimated fetal weight should be re-calculated.

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