# Assisted breech delivery, is the art fading?

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## ABSTRACT

**Objective:** To review the modes of breech delivery over a 5 year period in Khamis Civil Hospital, Khamis Mushayt, Kingdom of Saudi Arabia, and to evaluate the trend and associated complications.

**Methods:** Relevant data was extracted from the delivery room records of all women delivered in Khamis Civil Hospital, Khamis Mushayt, Kingdom of Saudi Arabia, from 1st January 1996 through 31st December 2000. Available data was analyzed.

**Results:** There were 375 breech deliveries, constituting 2.8% of the entire deliveries in the hospital. Eighty-two percent of the breeches were delivered by cesarean section while 18% had assisted vaginal delivery (p=0.0193). Amongst 72 primigravidae breeches, 68 (94.4%) were delivered by cesarean section while 238 (78.5%) out of 303 multigravidae were delivered by cesarean section. There were 2 unexplained neonatal deaths among the vaginal delivery group in multigravidae. Cesarean delivery was associated with less morbidity compared to vaginal delivery.

**Conclusion:** This study has demonstrated a significant increase in delivery of breeches by cesarean section and the resultant drop, in the number available for assisted breech delivery. Less obstetricians will therefore be exposed practically to the art of assisted breech delivery. Most practicing obstetricians seem to be more inclined towards delivering breeches by cesarean section. If this trend continues, the art of assisted breech delivery may fade.

**Keywords:** Cesarean section, vaginal delivery, term breeches, primigravida, multigravida.

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Breech presentation forms only about 3%-4% of the normal pregnancy at term, yet controversies still exist as to the best approach to their delivery. Wright[1] in 1959 highlighted the major morbidity and mortality associated with vaginal breech delivery and advocated routine cesarean section for term breech delivery. Current registered data on singleton term breech deliveries implies that vaginal delivery may be associated with mortality and morbidity.[2,3,4] Cesarean section (CS), which results in much fewer complications to the baby and mother, is now becoming the more favored mode of delivery especially in primigravida.[5] While CS is becoming the more favored mode of delivery for term breeches, some authors advocate a more selective approach and not an outright blanket CS for all term breeches especially in multigravida.[6,7] The most recent multicentral trial by Hannah et al,[8] found planned CS to be the better route of delivery of term breeches than vaginal birth. As more obstetricians opt for CS for term breech presentation, less cases will be available to gain experience in the art of assisted vaginal breech delivery.

The objective of this study is to review the modes of breech delivery in our unit at Khamis Civil Hospital (KCH), Khamis Mushayt, Kingdom of Saudi Arabia, (KSA) in the last 5 years and to study the trend in CS rate for term breech deliveries. These 2 studies will help answer the question, "Is the art of assisted breech delivery gradually fading?"

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**Methods.** This was a retrospective study of all term breeches admitted and delivered in our unit in KCH, from 1st January 1996 through 31st December 2000. The data obtained from the delivery room included: The total number of deliveries for the study period, the total number of term breech delivered, parity, the mode of delivery of the breeches [assisted vaginal delivery (AVD) or CS], maternal and neonatal outcome of the delivery and fetal birth weight. Excluded from the study, were cases of preterm breeches, breeches with known congenital malformations, twin breeches and intrauterine fetal death with breech presentation.

The onus of the mode of delivery of the breeches depended on the Consultant or Specialist on duty at the time of admission. Primigravida breeches were normally delivered by CS, while the multigravida breeches were assessed along the line of the size of the baby, the type of breech presentation and the stage in labor. Breeches with previous CS were delivered by repeat CS. Multigravida in advanced labor (namely cervical dilatation of 8cm) were allowed assisted vaginal delivery provided that there was no obvious feto-maternal disproportion clinically. Undiagnosed breeches in early labor had CS. All babies delivered by breech were examined by the attending Pediatrician and admitted into the nursery for observation. Babies with special problems were kept longer than 24 hours in the nursery before being taken to their mothers. These are our departmental guidelines for breech delivery.

**Results.** During the period of study, a total of 13,560 live births were recorded, out of which 375 (2.8%) were term breech deliveries. The yearly analyses are as shown in **Table 1.** Out of the 375 term breeches, 306 (81.6%) had CS, while 69 (18.4%) had assisted vaginal delivery. This is statistically significant (p=0.0193). The primigravidae breech formed a total of 72 (19.2%) out of which 68 (94.4%) had CS and 4 (5.6%) had assisted vaginal delivery. There were 303 (80.8%) multigravidae term breeches during the study period, 238 (78.5%) had CS while 65 (21.5%) had assisted vaginal delivery. The cases could not be broken down into undiagnosed breeches, planned CS or planned assisted vaginal delivery, as these were not indicated in the register. There were 2 unexplained neonatal deaths from the vaginal delivery group, which occurred among the multigravidae and none among the primigravidae. The 2 babies weighed 2.9kg and 3.2kg. The morbidity from the CS group was less compared to morbidity from the vaginal delivery group. There was no maternal death recorded, and maternal morbidity was similar between the groups. Neonatal complications were as shown in **Table 2.** These include: Erb's palsy (2), fractured clavicle (2), depressed skull bone (2) and a case of fractured skull.

**Discussion.** Wright[1] in 1959 eloquently argued in favor of routine cesarean delivery for all viable breech babies. With improved safety in the anesthetic techniques, mortality from cesarean delivery has declined drastically and many obstetricians are inclined to opt for cesarean delivery for breech presentation especially in primigraviae. Most recent publications on this topic are advocating planned cesarean delivery for term breeches. The overall meta-analysis of literature gives neonatal mortality and morbidity rate 4 times higher after vaginal breech delivery than cesarean birth for term

**Table 1 -** Analysis of term breech deliveries between January 1996 through to December 2000.

| Year | Total N of deliveries | Total N of breech | Breech by LSCS | Breech by AVD | N of primi breech | N of multi breech | Primi CS | Multi CS | Primi AVD | Multi AVD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1996 | 2495 | 70 (2.8) | 51 (72.9) | 19 (27.1) | 15 (21.4) | 55 (78.6) | 13 (86.7) | 38 (69.1) | 2 (13.3) | 17 (30.9) |
| 1997 | 2489 | 70 (2.8) | 54 (77.1) | 16 (22.9) | 14 (20) | 56 (80) | 14 (100) | 40 (71.4) | - | 16 (28.6) |
| 1998 | 2755 | 72 (2.6) | 60 (88.3) | 12 (16.7) | 2 (2.8) | 70 (97.2) | 2 (100) | 58 (82.9) | - | 12 (17.1) |
| 1999 | 3021 | 98 (3.3) | 85 (86.7) | 13 (13.2) | 26 (26.5) | 72 (73.5) | 25 (96.2) | 60 (83.3) | 1 (3.9) | 12 (16.7) |
| 2000 | 2800 | 65 (32) | 56 (86.2) | 9 (13.8) | 15 (23.1) | 50 (76.9) | 14 (93.3) | 42 (84.4) | 1 (6.7) | 8 (16) |
| **Total** | **13560** | **375 (2.8)** | **306 (81.6)** | **69 (18.4)** | **72 (19.2)** | **303 (80.8)** | **68 (94.4)** | **238 (78.5)** | **4 (5.6)** | **65 (21.5)** |

N - number,
AVD - assisted vaginal delivery, LSCS - lower segment cesarean section
CS - cesarean section
Primi - primigravidae
Multi - multigravidae

**Table 2 -** Neonatal outcome of all breech deliveries.

| Morbidity and Mortality | AVD N=69 | CS N=306 |
|---|---|---|
| Admission into nursery for observation | 69 | 10 |
| Over 24 hours nursery admission | 20 | 4 |
| Clavicular fracture | 2 | - |
| Skull depression/fracture | 3 | - |
| Hip dislocation | 2 | 1 |
| Erb's palsy | 2 | - |
| Neonatal death | 2 | - |
| Apgar score less than 7 after 5 minutes | 20 | 4 |

N - number,
AVD - assisted vaginal delivery, CS - cesarean section

**Table 4 -** Primigravida breech deliveries.

| Year | N of deliveries | Cesarean section | Assisted vaginal delivery |
|---|---|---|---|
| 1996 | 15 | 13 (86.7) | 2 (13.3) |
| 1997 | 14 | 14 (100) | - |
| 1998 | 2 | 2 (100) | - |
| 1999 | 26 | 25 (96.2) | 1 (3.9) |
| 2000 | 15 | 14 (93.3) | 1 (6.7) |
| **Total** | **72** | **68 (94.4)** | **4 (5.6)** |

N - number
x2 - 0.335, p - 0.57 (not significant)
There was an increase tendency for cesarean section in primigravida during the period of this study

breeches.[9] In our study, the overall cesarean birth rate for term breech is 81.6% compared to 18.4% for assisted vaginal breech delivery. There has been a gradual increase in the CS rate from 1996 to the year 2000 in our study **(Table 3). Table 4** shows a gradual increase rate for cesarean birth for primigravida but not statistically significant (p=0.57). The cesarean birth rate among the multigravida has been increasing steadily since 1996, 69.1% as compared to 84% in the year 2000 with a p value = 0.0031 **(Table 5).** With this tendency for increased rate for cesarean birth for term breeches, there is bound to be a reduced number of assisted vaginal breech deliveries. This means that fewer obstetricians will be able to gain enough experience in the art of vaginal breech delivery. This may affect the survival of undiagnosed breech in advanced labor, which may have to be delivered vaginally. Nwosu et al[10] found in their studies that undiagnosed breeches are more likely to be delivered vaginally with less morbidity and mortality than planned vaginal delivery. Optimally, breech delivery requires a team of at least 3 staff, 2 experienced obstetricians and a midwife.[11] The more senior obstetrician to conduct the delivery while the 2nd obstetrician is to assist in giving supra pubic pressure to keep the head well flexed and the fetal arms in place across the chest and the midwife to assist the mother. Other staff to be present are

**Table 3 -** All term breech deliveries (1996 through to 2000).

| Year | N of deliveries | Cesarean section | Assisted vaginal delivery |
|---|---|---|---|
| 1996 | 70 | 51 (72.9) | 19 (27.1) |
| 1997 | 70 | 54 (77.1) | 16 (22.9) |
| 1998 | 72 | 60 (83.3) | 12 (16.7) |
| 1999 | 98 | 85 (86.7) | 13 (13.2) |
| 2000 | 65 | 56 (86.2) | 9 (13.8) |
| **Total** | **375** | **306 (81.6)** | **69 (18.4)** |

N - number, $x^2$ - 5.474, p - 0.0193 (significant)
There was an increase tendency for cesarean section in all breech presentation during the period of this study

**Table 5 -** Multigavida breech deliveries.

| Year | N of deliveries | Cesarean section | Assisted vaginal delivery |
|---|---|---|---|
| 1996 | 55 | 38 (69.1) | 17 (30.8) |
| 1997 | 56 | 40 (71.4) | 16 (28.6) |
| 1998 | 70 | 58 (82.9) | 12 (17.1) |
| 1999 | 72 | 60 (83.3) | 12 (16.7) |
| 2000 | 50 | 42 (84) | 8 (16) |
| **Total** | **303** | **238 (78.5)** | **65 (21.5)** |

N - number, $x^2$ - 0.1023, p - 0.0031 (significant)
There was an increase tendency for cesarean section in multigravida during the period of this study

anethesiologist and a neonatologist to resuscitate the baby. The art of vaginal breech delivery needs adequate practical training of staff, since the theoretical aspect can be obtained from textbooks. As fewer cases are available for assisted vaginal breech delivery, this practical aspect of the training will be lost or very much reduced. Because breech vaginal birth has become a relatively rare event in many institutions, serious concern has arisen regarding the ability to adequately educate obstetricians in the technique of breech delivery.[11]

In conclusion, there is an increased cesarean section rate for term breech deliveries (72.9% in 1996 to 86.2% in the year 2000); hence the art of assisted vaginal breech deliveries can be inferred to be fading.

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