

Breech Presentation: Vaginal Delivery or Caesarean Section?

Tomescu Cezar-Laurentiu

Ovidius University of Constanta, Faculty of Medicine, Constanta, Romania

Sirbu Rodica

Ovidius University of Constanta, Faculty of Pharmacy, Constanta, Romania

Emin Cadar

UMF Carol Davila Bucharest, Faculty of Pharmacy, Bucharest, Romania

Brezeanu Dragos

Resident physician, OB-GYN Department,
County Emergency Clinical Hospital "Sf Apostol Andrei", Constanta, Romania

Aneta Tomescu

Ovidius University of Constanta, Faculty of Medicine, Constanta, Romania

Abstract

The incidence of breech presentation is approximately 3,97%. Breech presentation is considered as being "borderline eutocic" and it requires carefully monitoring both the foetus and the mother. The aim of the current paper is to evaluate the preferred method of delivery in case of breech presentation. The paper presents a retrospective study performed in the Obstetrics and Gynaecology Departments of the County Emergency Clinical Hospital "Sf. Apostol Andrei" in Constanta, during a period of 5 years (2010-2014). The methods of birth were analyzed for a lot of 1104 patients with breech presentation with ages ranging between 16 and 44 years old. The total number of patients who gave birth through vaginal delivery was of 139 patients, amounting to 12.59% of the total population sample. The number of patients that gave birth through C-section was 965, which amounts to 87.4% of the total population sample. Birth through C-section is preferred by both obstetricians and patients alike, due to the fact that vaginal delivery is associated with a higher foetal risk in breech presentation.

Keywords: Breech Presentation, Sacrum, Foetus

Introduction

Breech presentation is the variety of presentation in which the foetus exits the upper strait of the maternal pelvis with its inferior pole (the pelvis), its landmark point being the foetal sacrum bone. The incidence of breech presentation is approximately 3.7% [1].

Classification

Breech presentation can be:

- complete: with knees and hips flexed; the foetal feet can be palpated in the area of the upper opening.
- incomplete: the foetal inferior members are elongated along the foetal abdomen.

Aetiology

The normal development of pregnancy is characterized by a breech presentation of the foetus in the 7th month of gestation, after which the foetus rotates reaching a cephalic presentation. A body of mass immersed into liquid must subject itself to the laws of equilibrium, meaning that the centre of mass must be situated above the centre of gravity; from the 7th month

onwards, the centre of gravity is situated above the centre of mass, leading to the rotation of the foetus. Even though the pelvis of the foetus is larger, it is also reducible, meaning that it can better adapt to the uterine fundus, which is wider [2].

Aetiological factors accounting for breech presentation (which impede rotation) [3]:

1. Maternal factors:
 - Modified pelvic bone
 - Praevia tumors
 - Uterine malformations
 - Uterine fibroids
 - Hypoplastic uterus.
2. Foetal appendage factors:
 - Placenta praevia
 - Oligohydramnios
 - Primitive short umbilical cord or nuchal cord
3. Foetal factors:
 - Large foetuses (larger than 3800 g)
 - Foetal malformation characterized by abnormalities of the cephalo-pelvic disproportions: hydrocephalus, anencephaly, cerebral meningocele
 - Multiple pregnancies

Research Methods

The current research is a retrospective study conducted in the County Emergency Clinical Hospital "Sf. Apostol Andrei" in Constanta, over a period of 5 years between the first of January 2010 and the 31st of December 2014. Patient observation charts from 1104 patients admitted to the Obstetrics and Gynaecology Department were studied. The main point of interest was represented by the method of delivery – either through caesarean section or vaginal delivery. During the 5 years, the total number of births in the County Emergency Clinical Hospital "Sf. Apostol Andrei" was 14,763.

Results and Discussions

Statistical Data

2010: The total number of births was 2894, out of which 208 (7.18%) were breech presentation births. Out of these, 173 patients delivered through C-section (83.7%) and 35 through vaginal delivery (16.83%)

2011: The total number of births was 2918, out of which 219 (6.61%) were breech presentation births. Out of these, 162 patients delivered through C-section (83.93%) and 31 through vaginal delivery (16.07%).

2012: The total number of births was 3186, out of which 246 (7.72%) were breech presentation births. Out of these, 225 patients delivered through C-section (91.46%) and 21 through vaginal delivery (8.54%).

2013: The total number of births was 2972, out of which 223 (7.5%) were breech presentation births. Out of these, 200 patients delivered through C-section (89.68%) and 23 through vaginal delivery (10.32%).

2014: The total number of births was 2793, out of which 234 (8.37%) were breech presentation births. Out of these, 205 patients delivered through C-section (87.6%) and 29 through vaginal delivery (12.4%).

Total study lot, fig. 1: Throughout the 5 years of study, the total number of births was 14,763, out of which a total of 1,104 were breech presentation births (7.47%). Out of these, a total of 965 were C-sections (87.4%), while the remainder of 139 were vaginal deliveries (12.59%).

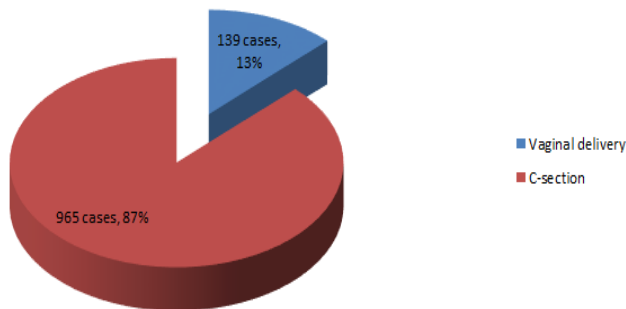


Fig. 1 Breech presentation births

It is worth noting that patients that delivered vaginally (139 – 12.59%) originate from a rural environment (77 patients – 55.4%) and that the remainder originate from an urban environment (62 patients – 44.6%) Fig. 2.

Environment

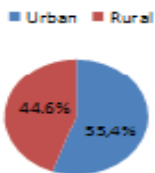


Fig. 2 The distribution of the patients after the environment

Ages of patients who underwent a C-section:

Patients younger than 20-years old: 57 (5.9%);
Patients between 20-30 years old: 569 (58.96%);
Patients between 31-40 years old: 315 (32.64%);
Over 41-years old: 24 (2.48%).

Ages of patients who delivered vaginally:

Patients younger than 20-years old: 12 (8.63%);
Patients between 20-30 years old: 71 (51.07%);
Patients between 31-40 years old: 46 (33.09%);

It can be observed that the maximum incidence is over 50% for the 20-30 years old age group, both for patients who delivered vaginally and for those who delivered through C-section.

Birth in breech presentation can follow the natural course of vaginal delivery in optimal conditions. Birth can either occur spontaneously (Vermelin [1]) or through manual assistance (Bracht-Tovianov [1]). Others recommend a systematic C-section (Wright) [2].

The Romanian Obstetrics-Gynaecology Guidelines recommend a C-section in the following situations:

- Primitive extension of the foetal skull;
- Foetal macrosomia (estimated foetal weight over 3,800g);
- Prolapse of the umbilical cord;

- Prematurity according to: foetal viability, number of pregnancies, age of the mother and other obstetrical factors;
- Intrauterine growth restriction (estimated foetal weight under the 10th percentile or lower than 2,000g);
- Any other co-morbidity associated with breech presentation;
- Uterine scarring;
- Premature rupture of membranes (The Romanian Obstetrics and Gynaecology Society Guidelines, 2012 [4]).

Vaginal delivery

In the absence of clear indications for C-section, the operating physician must inform the patient regarding delivery methods for breech presentation pregnancies. After informed consent, the patient is allowed to opt for vaginal delivery [4].

Researches that have studied the ulterior development of children originating from breech presentation pregnancies show that there is no difference in the type of delivery regarding morbidity, mortality or psycho-functional development. There is however, a small difference in what regards early morbidity, with lower rates in the case of children born through C-section (The Romanian Obstetrics and Gynaecology Society Guidelines, 2012 [4]).

Foetal accidents during vaginal delivery:

- Humerus or collarbone fracture;
- Femur fracture;
- Neonatal perinea lesions;
- Haematomas of the sternocleidomastoid muscle;
- Disjunction of the scapula, humerus, or femur epiphysis;
- Brachial plexus paralysis;
- Severe testicular lesions that can lead up to anorchia [5].

Perinatal morbidity and mortality:

Maternal mortality is around 2-3%, while foetal mortality is around 10-15% [2]

Perinatal mortality is higher in breech presentation compared to cephalic presentation [6].

Conclusions

A number of 1104 breech presentation births were evaluated. Out of these, a total of 965 were solved through C-section (87.4%), with the remainder of 139 through vaginal delivery (12.59%). It can be observed that 87.4% out of all breech presentation pregnancies were ended via C-section.

The incidence of breech presentation in our study was of 7.47%, which represents almost double compared to the data available in literature on the matter. The high percentage of C-sections can be explained to the level of safety such an intervention awards to the foetus (taking into account the foetal accidents that can occur during vaginal delivery).

Mothers aged between 20-30-years old exhibit the highest incidence in what regards births (58.96% for C-sections and 51.07% for vaginal deliveries); vaginal delivery births are more frequently observed for mothers originating from a rural environment (55.4%), compared to those from an urban environment (44.6%).

In what regards future prospects, it is expected that the number of C-sections will increase, partly due to the fact that Romanian guidelines permit mothers to choose the method of delivery and partly because this type of delivery is associated with a lower level of risk, an important aspect to take into account for obstetricians, as the number of malpractice complaints is on the rise.

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