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BREECH DELIVERY, RETROSPECTIVE STUDY ABOUT 303 CASES

Zakaria Idri*[2], Yousra Essaadi[2] and Ahmed Mimouni[1]

[1]Departement of Obstetrics and Gynecology at The University Hospital of Oujda.

[2]Departement of Obstetrics and Gynecology at The University Hospital of Rabat.

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***Corresponding Author**
Zakaria Idri
Departement of Obstetrics and Gynecology at The University Hospital of Rabat.

ABSTRACT

Obstetrical management of breech births remains a controversial issue. Our work comes to evaluate the obstetrical practices in terms of breech birth in the maternity of a regional hospital in Morocco. It is a retrospective study including all breech pregnancies delivered in our level II maternity hospital from January 1, 2012 to December 31, 2013. Out of the 303 patients studied, 260 (85.80%) had a vaginal delivery attempt, of whom 239 (91.92%) delivered vaginally. Several factors were taken into consideration when deciding on the route of delivery and parity seems to be the most important element taken into account before attempting a vaginal delivery. The neonatal results remain less clear and a prospective study in collaboration with neonatologists would be of great interest.

KEYWORDS: Breech presentation, vaginal delivery, cesarean section, neonatal outcomes.

INTRODUCTION

The breech presentation is a longitudinal presentation, where the pelvic extremity of the fetus presents first in the axis of the superior strait. It is a presentation known as "eutocic at the limit of dystocia". It concerns 3 to 4 % of deliveries at term. The modalities of delivery in breech presentation are still debated, practitioners have been interested in this question since ancient Greece if not much earlier. Currently, although several recommendations have been issued by learned societies, practices in this situation differ from one center to another and are based on the habits and knowledge of practitioners. Through our study, we will try to make an assessment of the management of breech birth in a regional hospital maternity hospital.

MATERIALS AND METHODS

This is a retrospective study conducted at the maternity unit of the AL-FARABI Regional

Hospital in Oujda concerning deliveries in breech presentation during the period from January 1, 2012 until December 31, 2013. During this period 16201 deliveries were performed. The aim of our study being to shed light on the practices of breech births in the maternity unit of this regional hospital; In this center night shifts are ensured by a team of paramedical staff with a doctor ensuring on-call duty. We included in our study all breech presentations including premature breech deliveries and multiple pregnancies. The data were collected from the delivery records retrieved from the maternity hospital archives. The data were reported on an individual anonymous data sheet, we opted for a virtual form for ecological reasons, for this we used the free tool Google Forms.

Data entry and analysis were performed with SPSS version 13.0.

RESULTS

1. Frequency

From January 1, 2012 to December 31, 2013, 16201 deliveries took place in the maternity unit of the regional hospital center AL-FARABI of Oujda, including 304 cases by the breech, a frequency of 1.87%.

2. Maternal age

We opted for a distribution in six age groups. Of the 304 cases studied, 59 patients did not specify their age; for the others, the average age was 29.58 years with extremes of 16 and 45 years. The majority of our parturients belong to the age group: 26-30 years, that is to say a frequency of 26.93%. 7.85% of the patients were under 20 years old, and 21.07% were over 35 years old.

3. Medical background

The most common medical conditions were asthma (13%), iron deficiency anemia (10%), and type 2 diabetes (3%), followed by type 1 diabetes, chronic hypertension and hypothyroidism, Regarding gynecological and obstetrical history, 40% of the patients were nulliparous, 10.5% had previous abortions, 5.2% had a scarred uterus, 5% had a breech birth, 3% had a uterine fibroid, and one patient had breast cancer.

4. Gestational age

Our study identified 45 cases of preterm delivery, of which 8 were extremely preterm, 9 were very preterm and 28 were preterm. A total of 20.58% of the women in our study gave birth to preterm infants.

5. Uterine height

In our study 26.23% had a uterine height below gestational age. In 63.15% of cases the height corresponded to gestational age. The uterine height was excessive in 13.15% of patients.

6. Breech Type

Complete breech was slightly more frequent than decompleted breech (53.1% vs. 46.1%),

7. Amniotic membranes

54.8% of women presented with a ruptured membrane, of which 6.17% were premature ruptures of the membranes and 33.33% were early ruptures of the membranes. The amniotic fluid was clear in 43.9% of the cases, tinted fluid in 1.3% of the cases and tinted thick in 8.3% of the cases.

8. Labor

Of the 303 patients studied, most were admitted in the active phase of labor (57.5%), 37% were in the latent phase of labor and only 5.5% presented outside of labor.

9. obstetrical ultrasound

Obstetrical ultrasound was performed in 95% of patients and showed macrosomia in 11% of cases and hydramnios in one case.

10. Delivery modatlities

Of the 303 patients studied, 260 (85.80%) had attempted vaginal delivery, of whom 239 (91.92%) delivered vaginally; 43 (14.20%) patients did not accept the vaginal route. A total of 64 (21.12%) delivered by the vaginal route. The factors that seem to have contributed to the indication of a vaginal delivery attempt are the following:

10.1. Parity

Multiparity is associated with a higher rate of attempted vaginal delivery delivery (OR:2.13) with a success rate of 96.22%.

The Apgar at birth was less than 3 in 4.6% of nulliparous women compared to 5.8% of multiparous women, and the upper route was associated with a high rate of neonatal distress in nulliparous women: 8.3% vs 3.6% (RR=2.75). After elimination of other factors of neonatal morbidity, 5.6% of the newborns delivered by the upper route presented with neonatal distress, compared with 1.9% of those delivered by the lower route (RR: 3.9). The rate of hospitalization in neonatology was higher in cases of multiparity.

10.2. History of scarred uterus

In patients with a scar uterus, vaginal delivery was attempted in 31.25% of cases, all of which resulted in vaginal delivery, compared with 68.75% of cases of delivery by the upper route. The cesarean section rate in the healthy uterus group was 16.7%. Thus, the scarred uterus was a risk factor for elective cesarean section (RR:4.84).

10.3. Size

There was no significant difference in the choice of delivery route between parturients with a short stature (<155 cm) and the others: 22.22% of deliveries by the high route vs. 20.54% in women with a stature greater than 155 cm. The rate of neonatal distress was higher in women under 155 cm.

10.4. Gestational age

There was no significant difference in the average gestational age between the two methods of delivery (38 days after birth). Prematurity did not contraindicate the attempt at vaginal delivery and 100% of the very premature babies were delivered vaginally (500g - 1900g), 93.75% of the very premature babies were delivered vaginally, and after 35 days after birth the rate of vaginal delivery reached 80%.

10.5. Breech type

The type of breech was not considered as a criterion of acceptability of the vaginal route.

10.6. Gemelity

24 pregnancies were twin (7.9%).29.16% of patients with a twin pregnancy with G1 breech presentation gave birth by the vaginal route.

10.7. Premature rupture of the membranes

The rate of attempted delivery was not affected by the presence of premature rupture of membranes: 85.18% of which 78.26% resulted in vaginal delivery, the rate of caesarean delivery was 33.33%.

11. Vaginal delivery

243 (79.86%) gave birth by vaginal delivery

11.1. Episiotomy

In our study, 53.97% of these patients had an episiotomy; the frequency of episiotomy is

inversely proportional to parity (59.82% in nulliparous women versus 22.41% in multiparous women)

11.2. Birth weight

The majority of newborns were eutrophic (71.06%), 12.76% weighed less than 2500g, and 16.17% weighed more than 3800g.

11.3. Apgar score at 5min

In our study 90% of newborns delivered by vaginal delivery had an Apgar score>7; 5.76% were born with an Apgar score <3.

11.4. Neonatal Unit Admission

4.95% of newborns delivered by vaginal delivery required hospitalization in neonatology.

12. Caesarean delivery

In our study, 59 (19.47%) parturients had a caesarean delivery.

12.1. Indications

The most common indication was suspected severe fetal distress (23.72%) followed by scar uterus (16.94%).

For 10 patients the indication was nulliparity, and the indication was not specified in 13 files.

12.2. Birth weight

The majority of newborns were eutrophic (62.50%), 7.14% weighed less than 2500g, and 30.35% weighed more than 3800g.

12.3. Apgar score at 5min

In our series 88.13% of newborns delivered vaginally had an Apgar score>7; 3.38% were born with an Apgar score <3.

12.4. Neonatal unit Admission

10.16% of newborns delivered by the upper route required hospitalization in neonatology (vs. 4.95% by the lower route).

12.5. Mortality

During our study period, no maternal mortality due to breech presentation was reported.

There were 10 cases of perinatal mortality (3.30%). If we eliminate these cases for which

fetal heart sounds were not detected on admission, the mortality rate falls to 1.73%.

DISCUSSION

Frequency

The frequency of breech deliveries was 1.87%, which appears to be lower than that described in other series.[1,2]

1. RISK FACTORS

1.1. Maternal age

The average age of the mother is high compared to the general average age of parturients, and the data in the literature support this result.[3,4]

1.2. Medical background

Among the antecedents found we note the frequency of abortions which is a risk factor for preterm delivery itself implicated in breech delivery. Scarred uterus was a risk factor for breech delivery and has been found in other series.[5,4]

1.3. Parity

Regarding parity this preponderance of nulliparous patients among patients who gave birth in breech presentation is always found in the series that preceded our study, the average parity is 1,2. This average seems lower than the general average parity in our context, fertility in Morocco being for our study period of 2.19 (2012); and 2.21 (2013).

Nulliparity is known to be a risk factor for breech birth, all descriptive studies dealing with the subject report a high nulliparity rate[3,4]

1.4. Prematurity

The rate of prematurity seems comparable to those found in other series of breech deliveries, prematurity is a factor favoring breech presentation since the later the gestational age, the less chance the fetus has to rotate and present its top.[6,7]

2. DELIVERY

In our series, the majority of patients had a vaginal delivery attempt, with a vaginal delivery rate that was by far the highest among the results found in our literature review. This can be explained by the fact that the Maternity Hospital studied has, over the years, developed its own habits (often improvised) that are adapted to the human and material resources available.

The mode of delivery in the case of breech presentation is still a matter of controversy; vaginal delivery is said to be associated with a high risk of neonatal mortality[8], which justifies for some the indication of a systematic caesarean section in the case of breech presentation. In fact, several serious studies have been carried out since the 1980s[9] and have insisted on the selection of parturients eligible for a vaginal delivery attempt. Everyone agrees that the Term Breech Trial (2000)[11] has changed the practices concerning the modalities of breech delivery, especially in the centers that participated in the study. This retrospective multicenter study involved 2088 breech deliveries in 121 centers in 26 countries with varying infant mortality profiles. Ten hundred and forty-one parturients underwent scheduled cesarean delivery, and ten hundred and forty-two underwent a successful vaginal delivery attempt. At the end of this study, neonatal mortality and neurological complications appeared to be more frequent in the group in which vaginal delivery was attempted (RR= 0.33 Caesarean section/visceral delivery); maternal morbidity at three months of age was greater in the case of attempted vaginal delivery, with no significant difference two years later; psychomotor development at two years of age was not affected by the mode of delivery. The results of this study have been widely echoed throughout the world, citing the example of the Netherlands, one of the most striking, where caesarean sections for breech presentation increased from 50% in 1998 to 80% in 2002 following the publication of these results, with a decrease in perinatal mortality from 0.35% to 0.18%.[18] The methodology of this work is undeniable, however, the conclusion drawn is questionable, particularly with regard to the inclusion criteria (inclusion of hypotrophic newborns, with growth restriction, or macrosomic babies) and the management, which did not follow a common protocol that could be evaluated after the fact (prior pelvimetry: 9.8% of parturients; continuous recording of fetal heart rate: 33% of parturients; no systematic presence of a senior). Following these results, a randomized prospective study was carried out during the period 2001-2002 to evaluate breech delivery practices. The study involved 8,108 pregnant women with breech presentation in 175 maternity hospitals in France and Belgium. The rate of scheduled cesarean delivery was 67.8%, the rate of attempted vaginal delivery was 32.2%, of which 70% resulted in a vaginal delivery, and 18.4% of patients had a cesarean delivery during labor. 54.4% of cesareans were performed on principle for breech presentation or for the desire of the parturient, i.e., regardless of obstetrical circumstances. There is a low risk of perinatal mortality (0.08% vs. 0.15%) and severe morbidity (1.6% vs. 1.45%) in the case of vaginal delivery, but this risk is equivalent to that of cephalic presentation, which led to the conclusion that vaginal delivery is safe in the case of breech presentation, provided that the conditions of acceptability

recommended by the national college of French obstetricians are respected.[10]

2.1. Maternal age

It was noted that it was less easy to attempt a vaginal delivery in women over 30 years of age. This can be explained by the fact that at this age, in our socio-cultural context, we are confronted with pregnancies considered "precious" especially in cases of nulliparity.

2.2. Nulliparity

22.2% of nulliparous women gave birth by the vaginal route compared to 18.1% of multiparous women. Nulliparity is often described as a relative contraindication to breech birth attempts, in fact it is associated with a higher failure rate of breech birth attempts but without worsening the neonatal outcome.[12]

2.3. Scarred uterus

An elective caesarean section was chosen in 68.75% of patients with a scarred uterus (compared with only 16.70% of parturients with a healthy uterus). The available literature does not show any increase in risk[13] in view of this association, provided that the conditions of acceptability of the vaginal route specific to the two situations are respected.

2.4. Prematurity

Prematurity did not contraindicate the attempt of vaginal delivery and 100% of extremely premature newborns were delivered vaginally, (500g - 1900g), 93.75% of extremely premature babies were delivered vaginally, beyond 35 weeks of amenorrhea the vaginal delivery rate reached 80%. We were unable to collect data on prenatal management of these deliveries, particularly those related to the administration of corticosteroids and possibly magnesium sulfate.

The mode of delivery for breech preterm newborns is still controversial and no randomized study has been completed. A systematic caesarean section would not be justified in the case of breech prematurity[14] although the risk of cervical retraction on the latter head (which may require a cervicotomy) is real, its frequency remains extremely low.[17]

2.5. Premature rupture of membranes

We note that the presence of premature rupture of the membranes was not taken as a deterrent to attempt vaginal delivery, nevertheless the rate of successful vaginal delivery was lower than the average found in our study, the rupture of the membranes during breech delivery

hinders cervical dilation since the membrane allows a good dilator cone unlike the breech which is irregular and whose shape does not follow the cervix. Breech presentation increases the risk of cord procidence, which is less severe than with apex presentation.[15,16]

2.6. Birth weight

In our study 16.17% of parturients who gave birth by vaginal delivery gave birth to newborns weighing more than 3800g, with a maximum weight of 4700g in a newborn by vaginal delivery. These deliveries can be associated with an increased risk of obstetrical accidents, which once again shows the importance of monitoring the pregnancy and especially of carrying out an obstetrical ultrasound examination before deciding on the delivery route.

CONCLUSION

The debate on the acceptability of the vaginal route continues, given that on the one hand it is a presentation at the limit of dystocia, which can generate complications, although rare, but serious for the newborn, the mother, and the practitioner who engages his responsibility by accepting the vaginal route. But on the other hand it is a frequent presentation and the policies of generalization of the high route would significantly increase the rate of caesarean section with all the associated morbidity.

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