

Maternofetal Prognosis of Breech Presentation at Gaspard Kamara Health Center

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ABSTRACT

Objective: This paper aimed to study the maternal-fetal prognosis of breech presentation at Gaspard Kamara health center (CSGK) from January 2020 to December 2021.

Patients and Method: This was a retrospective cohort study for descriptive and analytical purposes during the period range from January 1, 2020 to December 31, 2021. The study population consisted of all women who gave birth at the CSGK during the study period. The data was entered into our e-Perinatal computer database, then exported first into Microsoft Excel and then transferred to Epi info 7.2 software for statistical analysis. The risk of alpha error was set at 5%.

Results: Altogether, 7045 patients were enrolled with an average age of 28.01 years +/- 6.56 years. Most of the patients were admitted in 2020 (51.89%), came on their own (81.01%), and were multiparous (43.59%). The proportion of breech presentation was 3.49% (n=246) and complete breech was the majority (71.14%). Regarding maternal prognosis, a breech presentation was statistically related to the mode of labor induction (p<0.01), mode of delivery (p<0.01), and episiotomy performance (p<0.01). As for fetal prognosis, a breech presentation was statistically related to IUFD (p<0.01), fetal condition (p<0.01), Apgar score at M5 (p<0.01), newborn resuscitation (p=0.04), neonatal transfer (p<0.01), prematurity (p<0.01), and low birth weight (p<0.01).

Conclusion: Strengthening the skills of CSGK staff in the management of breech presentation could improve the maternal-fetal prognosis.

Keywords: Breech Presentation; Gaspard Kamara Health Center; Maternal Prognosis; Fetal Prognosis

Introduction

Breech birth, considered to be eutocic at the edge of dystocia, is a subject that has long divided obstetricians in learned societies and is still controversial. This controversy intensified at the beginning of the century with the publication by Hannah [1] of the Term Breech Trial in 2000, a randomized trial in which conclusions were in favor of performing a systematic caesarean section because of the neonatal risk which appeared to be increased in the short term in the case of natural delivery. This trial has been criticized for both its internal and external validity and in 2002 the French-Belgian PREMODA study conducted jointly with the French National College of Obstetricians and Gynaecologists (CNGOF), showed that, subject to the use of acceptability criteria for vaginal delivery, scheduling a vaginal delivery was not associated with an increased risk of neonatal complications [2]. The objective of this study was to evaluate the management and prognosis of breech birth in a level II referral center for comprehensive emergency obstetric and neonatal care (SONUC) in Dakar, Senegal.

Patients and Methods

We conducted a retrospective study for descriptive and analytical purposes covering a period range from 1 January 2020 to 31 December 2021, corresponding to a duration of two years (24 months). The study population consisted of all women who gave birth in our health setting. We included in our study patients with a monofetal pregnancy with at least 22 weeks of amenorrhea and/or the newborn at birth weighed at least 500 grams, and to have delivered at the CSGK during the study period. We didn't include pregnancies with an unknown year of delivery or fetal presentation.

The data collected were:

- Socio-demographic data: year of admission, age, parity, and mode of admission;
- Data related to the maternal outcome:

During Pregnancy

Gestational Diabetes, HBP, placenta praevia, retroplacental hematoma, premature rupture of membranes;

- Delivery outcome:
- Mode of labor occurrence (spontaneous vs artificial triggering vs C-Section before labour; mechanical dystocia and prolonged labour; route of delivery (vaginal or C-Section), PPH, Episiotomy, and tearing;
- Data related to the fetal outcome:
- During pregnancy:
- Oligoamnios, prolonged pregnancy, post-term, intra-uterine fetal demise,
- Delivery outcome:

Acute fetal distress, fetal status at birth, Apgar score, neonatal resuscitation, neonatal transfer, prematurity, macrosomia, and low birth weight. Data were entered into our database e-Perinatal. They were then exported first to Microsoft Excel and then transferred to Epi info 7.2 and R 4.3.3 for statistical analysis. For descriptive analysis, categorical variables were described by frequency tables,

bar charts, and pie charts. Quantitative variables were described by their positional (mean, median and mode) and dispersion (standard deviation, extremes) parameters. The bivariate analysis allowed us to look for associations between variables while using appropriate statistical tests according to their applicability. The risk of alpha error was set at 5%.

Results

Descriptive Results

The study population was 7045 patients. The frequency of breech presentation was 3.49% (n=246). Thus, complete breech was the most frequent mode at 71.1% (n=175) (Table 1 and Figure 1).

Table 1: Distribution of patients according to the type of breech presentation. N=246.

Type of breech presentation	Number (n)	Frequency (%)
Complete breech	175	71,14
Incomplete breech	71	28,86
Total	246	100,00

Note: The mean age of the patients was 28 years with extremes of 13 and 51 years.

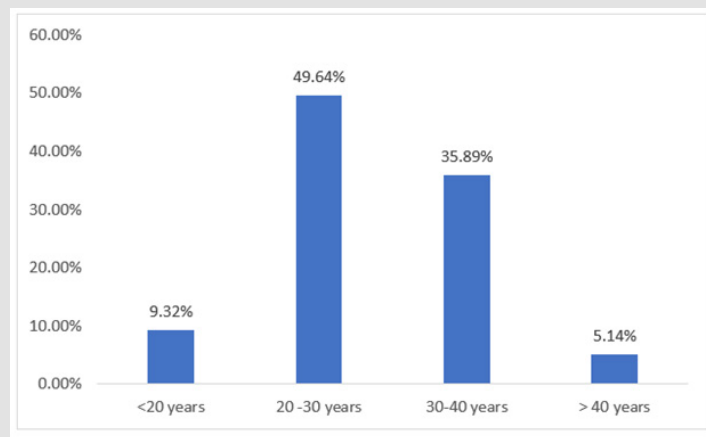


Figure 1: Distribution of patients according to age. N=7038.

Note: Nearly one out of two women (49.64%) were aged between 20 and 30 years.

Analytical Results

A. Maternal outcome during pregnancy

The proportion of pregnancy-associated HBP in women was 3.25% in breech presentations versus 2.79% in other presentations. This difference was not statistically significant with p=0.67. The proportion of pregnancy-associated diabetes in women was 4.07% in breech presentation versus 4.44% in other presentations. This

difference was not statistically significant at p = 0.77. The proportion of PROM in women was 8.13% in breech presentation versus 7.63% in other presentations. This difference was not statistically significant at p = 0.77.

The proportion of HRP in females was 1.63% in breech presentation versus 0.72% in other presentations. This difference was not statistically significant at p = 0.11. The proportion of Placenta praevia in women was 0.41% in the breech presentation compared

to 0.25% in other presentations. This difference was only statistically significant with $p = 0.47$ (Table 2 and Figure 2). The following table shows the maternal prognosis during pregnancy [3].

Table 2: Maternal outcome during pregnancy.

Variables	Breech presentation					P value
	Yes		No		Total	
	N	%	N	%		
HBP and pregnancy						0,67
Yes	8	3,25	238	96,75	246	
No	190	2,79	6609	97,21	6799	
Gestational Diabetes						0,78
Yes	10	4,07	236	95,93	246	
No	302	4,44	6497	95,56	6799	
PROM						0,77
Yes	20	3,71	226	91,87	246	
No	519	7,63	6280	92,37	6799	
HRP						0,11
Yes	4	1,63	242	98,37	246	
No	49	0,72	6750	99,28	6799	
Placenta praevia						0,47
Yes	1	0,41	245	99,59	246	
No	17	0,25	6782	99,75	6799	

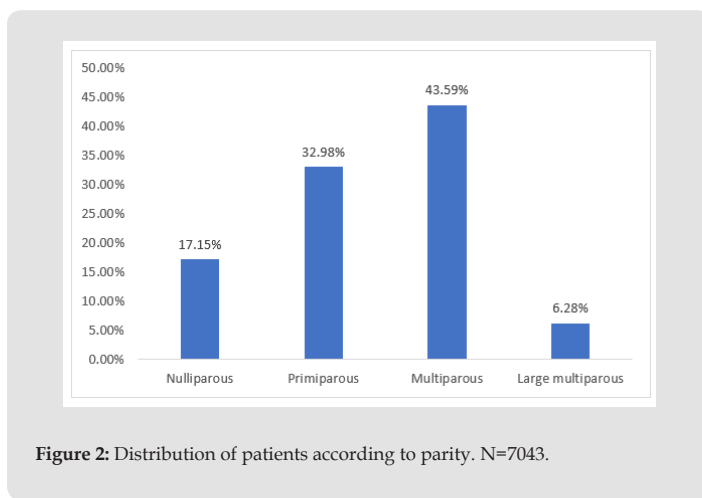


Figure 2: Distribution of patients according to parity. N=7043.

B. Maternal outcome during delivery:

The proportion of pre-labour caesarean sections was 52.48% in breech presentations compared to 25.03% in other presentations. This difference was statistically significant with $p < 0.01$. The proportion of dystocia or prolonged labour was 4.47% in breech presentation versus 3.93% in other presentations. This difference was not statistically significant at $p = 0.67$. The proportion of Caesarean sections was 59.59% for breech versus 29.77% for other presentations. This difference was statistically significant at $p < 0.01$.

The proportion of PPH in women was nil in breech presentations compared to 0.13% in other presentations. This difference was not statistically significant at $p = 1$. The proportion of episiotomies was 8.94% in breech presentations versus 24.49% in other presentations. This difference was statistically significant at $p < 0.01$. The proportion of perineal tears was 5.28% in breech presentation versus 8.62% in other presentations. This difference was not statistically significant at $p = 0.07$ (Table 3).

Table 3: Maternal outcome during delivery.

Variables	Breech presentation					Labor
	Yes		No		Total	
	N	%	N	%		
Labour induction						<0,01*
Pre-labour C-Section	127	52,48	1653	25,03	1780	
Triggering	6	2,48	181	2,74	187	
Spontaneous	109	45,04	4770	72,23	4879	
Dystocia or prolonged labour						0,66
Yes	11	4,47	267	3,93	278	
No	235	95,53	6532	96,07	6767	
Mode of delivery						<0,01*
Caesarian	146	59,59	2017	29,77	2163	
Vaginal	99	40,41	4759	70,23	4858	
PPH						1
Yes	0	0,00	9	0,13	9	
No	246	100,0	6790	99,87	7036	
Episiotomy						<0,01*
Yes	22	8,94	1665	24,49	1687	
No	224	91,06	5134	75,51	5358	
Perineal tear						0,06
Yes	13	5,28	586	8,62	599	
No	233	94,72	6213	91,38	6446	

Note: *Statistically significant difference

C. Fetal outcome during pregnancy :

The proportion of oligohydramnios was 0.41% in breech presentation versus 0.44% in other presentations. This difference was not statistically significant with $p = 1$. The proportion of prolonged pregnancies was 5.28% in breech presentation versus 8.50% in other presentations. This difference was not statistically significant at $p = 0.08$. The proportion of post-term pregnancies was 1.63% in breech presentation versus 3.00% in other presentations. This difference was statistically significant at $p = 0.21$. The proportion of IUFD in women was 4.07% in breech presentation versus 1.34% in other presentations. This difference was not statistically significant with $p < 0.01$ (Table 4).

Table 4: Fetal outcome during pregnancy.

Variables	Breech presentation				Total	P value
	Yes		No			
	N	%	N	%		
Oligoamnios						1
Yes	1	0,41	30	0,44	31	
No	245	99,59	6769	99,56	7014	
Prolonged pregnancy						0,08
Yes	13	5,28	578	8,50	591	
No	233	8,50	6221	91,50	6454	
Post-term						0,21
Yes	4	1,63	204	98,37	208	
No	242	98,37	6595	97,00	6837	
IUFD						<0,01*
Yes	10	4,07	91	1,34	101	
No	236	95,93	6708	98,66	6944	

Note: *Statistically significant difference

D. Fetal outcome during delivery:

The proportion of AFD was 2.03% in breech presentations versus 1.54% in other presentations. This difference was not statistically significant with $p = 0.44$. The proportion of live newborns was 93.90% in breech presentation versus 97.39% in other presentations. This difference was statistically significant with $p < 0.01$. The proportion of Apgar score < 7 at M5 was 5.22% in breech presentation versus 1.11% in other presentations. This difference was not statistically significant with $p < 0.01$. The proportion of neonates resuscitated was 18.75% in breech presentation versus 13.92% in other presentations. This difference was statistically significant at $p = 0.04$. The proportion of neonatal transfers was 8.68% in breech presentation versus 3.43% in other presentations. This difference was not statistically significant with $p < 0.01$. The proportion of preterm births was 9.35% in breech presentation versus 4.81% in other presentations. This difference was statistically significant at $p < 0.01$. The proportion of macrosomia was 4.07% in breech presentation versus 4.63% in other presentations. This difference was not statistically significant at $p = 0.67$.

The proportion of low birth weight was 17.55% in breech presentation versus 8.31% in other presentations. This difference was not statistically significant with $p < 0.01$ (Table 5).

Table 5: Fetal outcome during delivery.

Variables	Breech presentation				Total	P value
	Yes		No			
	N	%	N	%		
AFD						0,44
Yes	5	2,03	105	1,54	110	
No	241	97,97	6694	98,52	6935	
Fetal status						< 0,01*

Stillbirth	15	6,10	177	2,61	192	
Alive	231	93,90	6600	97,39	6831	
Apgar Score						< 0,01*
< 7	12	5,22	73	1,11	85	
≥7	218	94,78	6483	98,89	6701	
Resuscitation						0,04*
Yes	42	18,75	900	13,92	942	
No	182	81,25	5565	86,08	5747	
Neonatal transfer						< 0,01*
Yes	19	8,68	217	3,43	236	
No	200	91,32	6102	96,57	6302	
Prematurity						< 0,01*
Yes	23	9,35	327	4,81	350	
No	223	90,65	6472	95,19	6695	
Macrosomia						0,67
Yes	10	4,07	315	4,63	325	
No	236	95,93	6484	95,37	6720	
Low birth weigh						< 0,01*
Yes	43	17,55	564	8,31	607	
No	202	82,45	6219	91,69	6421	

Note: *Statistically significant difference

Discussion

Limits of the Study

This was a retrospective study and some medical records were incomplete, which may constitute a bias.

Epidemiological and Clinical Aspects

The frequency of breech presentation in most series is between 3 and 4% [4,5]. The frequency of 3.49% found in our series corroborates with the rates generally reported in the literature (Table 6). In our series, the mean age of the patients was 28.01 +/- 6.56 years with extremes of 13 and 51 years. Our results are similar to those of Rosenau [6] who reported a mean age of 27 years, with extremes of 17 and 43 years [7,8]. Mouhamed [9] found a mean age of 27.6 with extremes of 15 and 43. Considering the question of whether maternal age has any influence on the occurrence of breech presentation, opinions are arguable. Most authors consider maternal age to be an independent factor in the occurrence of breech presentation (Table 7). In our series, 43.59% of patients were multiparous. This rate is lower than the rates found by Mouhamed [9] in 2015 at Philippe Senghor Health Center in Dakar, corresponding to 54.9%, but higher than those found by Farid [10] with 30.9%. However, the studies carried out by Bentachir in 2009 and Rosenau in 1990 show a predominance of primiparous women (Table 8).

Table 6: Global frequency of breech presentation.

Authors	Country	Year	Frequency(%)
Roseau [6]	France	1990	3,2
Ilesammi [7]	Nigeria	1996	2,1
Bentachir [8]	Senegal	2009	3,95
Mouhamed [9]	Senegal	2015	3,65
Our series	Senegal	2021	3,49

Table 7: Maternal age according to authors.

Authors	Year/Country	Mean age	Age extremes
Rosenau	1990 / France	27	17-43
Mouhamed	2015 / Senegal	27,6	15-43
Our series	2021/Senegal	28,01	13-51

Table 8: Frequency of breech presentation according to the parity.

Authors	Country/Year	Primiparous	Multiparous
Rosenau [6]	France/1990	50,1	3,6
Farid [10]	Senegal/1992	25,6	30,9
Bentachir [8]	Senegal/2009	41,8	14,2
Mouhamed [9]	Senegal/2015	45,8	54,9
Our series	Senegal/2021	32,98	43,59

Outcomes

A. Maternal outcomes:

As per some authors, maternal morbidity during breech presentation is outlined by soft tissue lesions: cervical and perineal tears, sometimes with serious bladder and/or anorectal damage. In our study, we found that tears are minimal compared to other presentations. Regarding maternal mortality, a study carried out in France between 1996 and 2000 showed that maternal mortality was 3.6 times higher after caesarean section than after vaginal delivery. In our study, maternal mortality didn't occur and caesarean sections were performed in a higher proportion than vaginal deliveries. In addition, PPH is a cause of maternal mortality for some. In our work, postpartum hemorrhage was not recorded.

B. Fetal outcome:

Rosenau [6] shows that caesarean section helps improve the fetal prognosis. In our study more vaginal deliveries than caesarean sections and more morbidity and mortality were noted than in other presentations, this leads to conclude that fetal prognosis during breech presentation does not depend on the mode of delivery. Robert [11] estimates a mortality rate of 4.2%. In our study, stillbirth rate was found at 6.1% (Table 9).

Table 9: Distribution of patients by mode of admission. N=7041.

Mode of admission	Number (n)	Frequency (%)
From a referral	1337	18,99
From home	5704	81,01
Total	7041	100,00

Note: Almost one in five patients was admitted through a referral.

Conclusion

Besides neonatal depression as reflected by a low Apgar score at the end of the first minute, breech delivery did not show exceptionally higher maternal and neonatal morbidity compared to eutocia although in both cases neonatal mortality is very high when compared to Western outcomes. With specifically skilled personnel, breech birth-related perinatal morbidity and mortality could be improved.

References

- Hannah ME, Hannah WJ, Hewson SA, Hodnett ED, S Saigal, et al. (2000) Planned caesarean section versus planned vaginal birth for breech presentation at term: a randomized multicentre trial-Term Breech Trial Collaborative Group. *Lancet* 356(9239): 1375-1383.
- Daniel P, Peter J (1995) Route for the breech presentation: A conundrum *Am ir of obstet and gynécol* 173: 2.
- Dufour P Présentation par le siège à terme (2002) Version par manoeuvres externes: Quand et comment ? *Encycl Méd Chir, Obstétrique, 5-049-L-42* 7p.
- Lansac J, Marret H, Oury JF (2006) *Pratique de l'accouchement*. 4è ed. Masson, Paris.
- Merger R, Levy J, Melchior J (1995) *Précis d'obstétrique*. 6è ed. Masson, Paris.
- Rosenau L, Grosieux P, Denis A (1990) Facteurs pronostiques de l'accouchement en présentation du siège : A propos de 357 grossesses mono-foetales a terme. *Rev Fr Gynecol* 85(5): 271-281.
- Ilesammi OA, Sobowale OA, Marinho OA (1996) The outcome 44 breech singleton deliveries at the catholic hospital Oluyoro Ibadan African Journal of Medicine and Medical Sciences. *Mars* 25(1): 41-6
- Bentahir S (2009) Aspects épidémiologiques, cliniques et pronostiques de l'accouchement en présentation du siège au Centre de Santé roi Baudouin de Dakar. *Thèse Médecine Dakar n°43*.
- Mouhamed M A (2015) Pronostic et facteurs prédictifs de la césarienne au cours de l'accouchement du siège : Etude cas-témoin au Centre de Sante Philippe Maguilen Senghor de Dakar. *Thèse med Dakar 2015 n°1174*.
- Farid F I Epidémiologie de l'accouchement en présentation du siège et suivi néo-natal précoce dans une maternité de référence d'Afrique noire. *Thèse Méd Dakar 199 n° 40*.
- Robert M, Jean L, Jean M (1995) Présentation du siège in *Précis d'obstétrique*. Robert M, Jean L, Jean M. Masson 6è Edit Paris, pp. 618.Barbu V, M Cotârleț, CA Bolea, A Cantaragiu, DG Andronoiu, et al. (2020) Three types of beetroot products enriched with lactic acid bacteria. *Foods* 9(6): 786.

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