

The management of breech presentation in the last three decades

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Summary

In order to evaluate the changes in management of breech presentation during the last three decades, a retrospective analysis of the "Alexandra" Hospital records was undertaken. The years, 1965, 1975, 1985, 1995 and finally 1997 were used as pilot years for this purpose. The cesarean section, breech presentation and breech cesarean section rates were calculated for each year. Specific breech cesarean section rates in respect to birth weight and parity as well as perinatal mortality rates were also recorded for each pilot year. The overall cesarean section rate rose from 8.0% in 1965 to 25.2% in 1995 and 25.1% in 1997 while the breech cesarean rate climbed from 16.9% in 1965 to 74.1% in 1995 and 72.3% in 1997, irrespective of birth weight. A trend towards vaginal delivery of breeches in multiparous women till 1985 became less apparent in later years. During the same period, a marked decrease of the perinatal mortality rate was observed from 70.1‰ in 1965 to 36.6‰ in 1997. In conclusion, a more than four-fold increase of the breech cesarean section rate was apparently rewarded by a two-fold decrease in perinatal mortality.

Key words: Breech presentation; Cesarean delivery; Perinatal mortality.

Introduction

The rates of delivery by elective cesarean section in breech presentation have considerably increased in all western countries. In the United States, the percentage of breech presentations delivered by cesarean section rose from 68.2% in 1980 to 78.3% in 1985 and reached 83.1% in 1990. In Scotland, this proportion increased from 69.9% in 1980 to 79.6% in 1990 and in Norway from 39.9% to 60.8% during the same period. In Sweden, during the mentioned period, this rate was practically stable, being 66.3% in 1990 [1].

While the rationale of elective cesarean section in breech presentation is to reduce perinatal morbidity and mortality, the efficacy of this approach has been questioned.

The purpose of the present study was to evaluate the trends and the current level of cesarean delivery in the management of breech presentation over a 32 year period.

Material and Methods

A retrospective analysis from hospital records was undertaken at "Alexandra" Maternity Hospital. The years 1965, 1975, 1985, 1995 and 1997 were selected as representative of the past 32 years. The total number of cesarean sections, breech presentations and breech cesarean sections as well as parity, birth weight, fetal and perinatal deaths were recorded. Subsequently, overall and breech cesarean section, specific breech cesarean section rates in respect to parity and birth weight and finally perinatal mortality rates for each pilot year were calculated.

Results

The breech presentation rates during the selected pilot years varied from 3.48% in 1995 to 4.83% in 1985 (Table 1). Table 2 shows that while the overall cesarean section rate increased from 8% to 25% during the study period, the respective rate for abdominal deliveries in breech presentation climbed from 16.9% (1965) to 74.1% (1995) and 72.3% in 1997.

While the breech cesarean rates varied according to birth weight during the first two selected years, this variation was not observed in the years that followed (Table 3).

As far as parity is concerned, Table 4 shows that it favorably influenced the breech cesarean rates of 1965 and 1975 where the vast majority of para-II to para-≥IV parturients were delivered vaginally. In 1985 half of the para-II women in breech had cesarean section while afterwards, the favorable impact of parity became even less apparent.

Table 5 shows the fetal and neonatal deaths and also the breech specific perinatal mortality rates for each of the selected pilot years. A constant considerable decrease of perinatal mortality was observed throughout the study period. The rate dropped from 70.1‰ in 1965 to 36.6‰ in 1997.

Discussion

The management of breech presentation has remarkably changed during the last decades. Nowadays, in most maternity hospitals, cesarean section has become the method of choice for breech presentation, regardless of parity and gestational age.

Revised manuscript accepted for publication April 22, 1999

Table 1. — Incidence of breech presentation in the years 1965, 1975, 1985, 1995 and 1997

Year	Total deliveries	Breech*	%	Total Newborns
1965	7204	308	4.28	328
1975	4819	219	4.54	243
1985	5317	257	4.83	270
1995	3877	135	3.48	148
1997	3682	148	4.02	164

(*) Including multiple gestations with at least one fetus in breech.

Table 2. — Cesarean section rates – overall and in breech – in the years 1965, 1975, 1985, 1995 and 1997

	Total deliveries	Total C. S.	%	Breech	C. S.	%
1965	7204	578	8.0	308	52	16.9
1975	4819	483	10.0	219	31	14.2
1985	5317	975	18.3	257	157	61.1
1995	3877	979	25.2	135	100	74.1
1997	3682	925	25.1	148	107	72.3

C.S.: Cesarean section

Table 3. — Cesarean section in breech fetuses according to birth weight, during the years 1965, 1975, 1985, 1995 and 1997

Birth weight	No	1965 CS	%	No	1975 CS	%	No	1985 CS	%	No	1995 CS	%	No	1997 CS	%
≤ 1500	28	1	3.6	35	—	—	32	7	21.9	13	3	23.1	11	3	27.3
1501-2000	39	5	12.8	28	1	3.6	22	7	31.8	13	8	61.5	13	10	76.9
2001-2500	35	5	14.3	38	2	5.3	28	20	71.4	22	17	77.3	29	21	72.4
2501-3000	66	3	4.5	46	7	15.2	57	29	50.9	33	26	78.9	37	26	70.3
3001-3500	93	15	16.1	63	13	20.6	85	61	71.8	36	32	88.9	45	34	75.6
3501-4000	53	7	32.1	24	8	33.3	34	30	88.2	25	19	76.0	22	20	90.9
> 4000	14	9	6.4	9	3	33.3	12	11	91.7	6	5	83.3	7	5	71.4
Total	328	55	16.8	243	34	14.0	270	165	61.1	148	110	74.3	164	119	72.6

C. S.: Cesarean section.

Table 4. — Breech cesarean section according to parity in the years 1965, 1975, 1985, 1995 and 1997

Parity	B.P.	1965 C.S.	%	B.P.	1975 C.S.	%	B.P.	1985 C.S.	%	B.P.	1995 C.S.	%	B.P.	1997 C.S.	%
I	152	39	25.7	80	21	26.2	148	129	87.2	73	64	87.7	80	72	90.0
II	101	10	9.9	62	6	9.7	47	23	48.9	33	19	57.6	36	22	61.1
III	37	3	8.1	38	2	5.3	39	3	7.7	15	10	66.7	17	6	35.3
≥ IV	18	—	—	39	2	5.1	23	2	8.7	14	7	50.0	15	7	46.7
Total	308	52	16.9	219	31	14.2	257	157	61.1	135	100	74.1	148	107	72.3

C. S.: Cesarean section.

B. P.: Breech presentation.

Table 5. — Fetal deaths (FD), neonatal deaths (ND) and perinatal mortality of breech presentation by birth weight, in the years 1965, 1975, 1985, 1995 and 1997

Birth weight	No	1965			1975			1985			1995			1997		
		FD	ND		No	FD	ND	No	FD	ND	No	FD	ND	No	FD	ND
≤ 1500	28	4	6		35	4	1	32	3	–	13	1	2	11	–	2
1501-2000	39	3	2		28	2	3	22	2	–	13	1	1	13	–	2
2001-2500	35	–	1		38	–	–	28	1	–	22	1	–	29	2	–
2501-3000	66	2	–		46	1	–	57	1	–	33	–	–	37	–	–
3001-3500	93	1	1		63	–	2	85	–	–	36	–	–	45	–	–
≥ 3501	67	3	–		33	–	1	46	–	1	31	–	1	29	–	–
Total	328	13	10		243	7	7	270	7	1	148	3	4	164	2	4
Perinatal mortality	70.1‰				57.6‰			29.6‰			47.3‰			36.6‰		

There is no doubt that neonates born vaginally in breech presentation do generally worse than those in vertex.

In a recent study, the overall perinatal mortality of breech presentation was almost nine times higher than that of cephalic presentation. Unconditioned multiple logistic regression analysis showed that even after adjusting for low birth weight and the presence of congenital abnormalities, breech presentation still showed a statistically significant association with perinatal death [2].

There are a number of risk factors associated with

breech versus cephalic presentation such as prematurity, birth trauma, cord prolapse, intrapartum asphyxia, etc. With all these complications in mind, increased use of cesarean section for breech delivery is justified, based on the assumption that the abdominal route would improve neonatal outcome.

In our Department, the cesarean section rate in breech presentation has increased more than fourfold from 1965 to 1997. The most interesting result of this change in obstetrical practice, over the last three decades, is the considerable drop of the perinatal mortality rate from

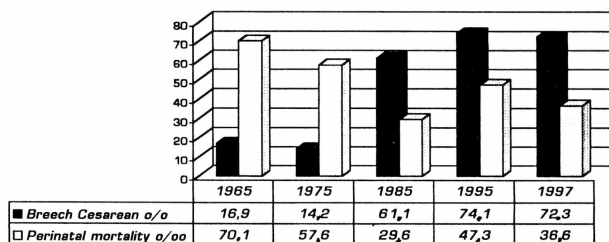


Figure 1. — Changes in rates of cesarean section (o/o) and perinatal mortality (o/oo) in breech presentation during the study period.

70.1‰ to 36.6‰ during this period (Figure 1), due mainly to the observed decrease in fetal mortality.

In the Gravenhorst study [3], the data presented claimed a reduced perinatal mortality rate in breech presenting infants delivered by cesarean section, than in those born vaginally.

As a result of concerns about vaginal breech delivery, external cephalic version in the term fetus has been suggested. However, external version will not have a major impact on the high overall cesarean rate [4-8].

Some reports in the literature suggest that the mode of delivery in breech presentation does not significantly influence the outcome of very low birth weight fetuses. Additionally, other reports that in fetuses weighing <1500 g, breech presentation is not justified as the sole indication for cesarean section [9-11].

In a recent study, analysis of 580 breech deliveries failed to show any effect of the route of delivery upon mortality while cesarean section reduction programs appear in the literature [12].

Cesarean section rates have risen dramatically over the past 20 years. Although during the same period perinatal mortality has declined, there is little evidence that the latter is the cause. One should consider the fact that the rapid development of neonatal intensive care units has greatly improved the access to better perinatal care and eventually contributed to reducing neonatal mortality [13].

In conclusion, our findings on the 32 year period, support the hypothesis that more frequent cesarean section improves the perinatal results of breech presentation.

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