

BREECH DELIVERY IN A GENERAL HOSPITAL

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Breech presentations have recently come in for a fair amount of attention due to the rather high foetal mortality associated with this complication. Certain changes in the management of this abnormal presentation have now become more or less routine in the last few years. In the Lady Hardinge Hospital, New Delhi, we have attempted to review all the cases of breech delivery from January 1945 to August 1950 (inclusive) in the

As we have a fairly large number of referred abnormal cases from the various centres, we have naturally a high incidence. Further we agree with Ryder that the figure will be definitely lowered if external version is practised with care and zest in the antenatal clinics. The above 350 cases represent only such cases where external version failed or those who came in without any prenatal care, i.e. as emergencies.

TABLE I

Still Birth and Neonatal Mortality in relation to Antenatal Care

Antenatal cases			Emergency cases		
Total	Died	Per cent	Total	Died	Per cent
169	35	20.72	181	79	43.09

hope that some conclusions arrived at may help us to reduce the appalling foetal wastage still prevalent in our hospitals. In the above period the total number of term and premature births managed by our unit was 7,997. Breech deliveries during the same period numbered 350, giving us an incidence of 4.37%. The commonly reported incidence in the literature varies from 2.1% to 6%. Seeley gives a figure of 4.8%, Wilcox 4.2%, Tompkins 4.7% and Ryder 2.6%.

Looking at Table I it is fairly obvious that good antenatal care can definitely reduce the foetal mortality to a fair extent. As 51.76% of our cases were admitted as emergencies, and usually in labour, no proper management could be undertaken and no prenatal investigations done. A fair number of our antenatal cases had only one or two visits to their credit which is far from satisfactory.

External Version. From our antenatal clinics all cases of breech pre-

sensation are referred for external version between the 32nd to the 34th week of pregnancy, as we believe that after the 34th week the chances of spontaneous version are less than 2%. External version is repeated often twice and thrice on the same patient if necessary. As we scarcely ever use general anaesthesia and the operation is performed only by the senior residents we have not observed any serious complications. We always check the foetal heart sounds before, during and after the operation, and any undue slowing or irregularity of the former is a sign that the procedure should not be persisted in. We do not boast of such good results as those of Peel and Clayton (successful 88%) or Thornhill (successful 84%). Our success rate lies in the region of 60-70%. We are in accordance with the views of Ryder, Seigel and Vartan, that the largest number of failures are encountered in the frank breech, the extended legs firmly splinting the trunk and preventing any effective flexion. X-rays have not been used extensively in the diagnosis of this complication in our hospital but are often resorted to in cases where external version fails, thus giving a clear picture of the lie of the foetus. We agree with Vartan that an extended spine and a foetal head tucked high up in the abdomen are the cases which usually resist any change of foetal attitude.

Fig. 1: shows an X-ray picture of a case of extended breech with the upright attitude and high position of foetal head which resisted any attempt at version, and was finally delivered as breech.

Aetiology. As far as the causes of

breech presentations are concerned our series showed a high incidence of prematurity, maceration and congenital foetal abnormalities. In congenital malformations, abnormalities of the foetal head are conspicuous by their presence. The oft-quoted causes as enumerated in the literature were not evident in our series. Pelvic contraction occurred only four times giving an incidence of 1.14%, and hydramnios 3 times giving an incidence of 0.85%, both figures comparing favourably with the overall incidence. Placenta praevia, however, figured prominently giving an incidence of 6%, whereas the overall figure in all cases is 1.89% for our hospital. As in practically all the cases of placenta praevia prematurity was co-existent, it is difficult to evaluate the occurrence of placenta praevia by itself in the aetiology of breech presentations. We have no experience regarding the Cornual-fundal implantation of the placental site as being responsible for the occurrence of breech presentation. This has been discussed in a recent paper by Stevenson in a series of 76 cases by using soft tissue X-ray placentography. Congenital malformations of the uterus as a cause of breech presentation as stressed by Stanley Way did not figure prominently in our series.

TABLE II

Relationship of Age and Breech Presentation

	Below		Above	
	Yrs.	Yrs.	Yrs.	Yrs.
Total	19	20-29	30-39	40
350	59	190	96	5

From Table II we do not get any relevant information and the behaviour of breech presentations is very much the same as the other presentations in relation to the age of the mother. It is significant that 54.2% of all cases occurred between the ages of 20-29 years.

Table IV shows the incidence of extended breech which is 16.86% in our series. In the literature the incidence ranges from 15% to 25%. Ware and his co-workers found an incidence of 18.55% in their series. We also find from Table IV that the incidence of extended breech in pri-

TABLE III
Parity and Breech Delivery

Total	Primi.	2nd	3rd	4th	5th	6th	7th	8th	9th	above 9th
350	123	47	47	30	15	17	24	11	17	19

The above table shows that 35.4% of breech presentation occurs in primiparas. The other factor as stands out from Table III is that breech presentation is relatively more common in the 2nd and 3rd para, both accounting for 26.84% of the total number. These findings are in accordance with the views of Stevenson who holds that parity is a significant factor in the occurrence of breech presentations as the shape of the uterus tends to be definitely ovoid in the primipara and partly in the secundipara.

mipara is not a great deal higher than that found in multipara. Out of the 27 cases occurring in multipara 12 or 44.44% were found in the secundipara, a significant fact even though our figures are too small to draw any conclusions.

From the above we can hardly find much evidence to support the common belief that breech is usually associated with prolonged labour and consequently increased foetal loss. In primiparae the average duration of labour was 14 hours and 45 minutes

TABLE IV
Type of Breech Presentations

	Primipara	Multipara	Total	Per cent
Extended breech	32	27	59	16.86
Full breech	103	172	275	78.66
Single footling	9	7	16	4.48

TABLE V
Duration of Labour

	Short (below 12 hrs.)	Normal (13-24 hrs.)	Prolonged (above 24 hrs.)	Total	Per cent
Primipara	53	50	20	123	35.14
Multipara	below 6 hrs. 86	6.18 hrs. 109	above 18 hrs. 32	227	64.86

while in the multiparae it was 9 hours and 5 minutes. These figures again compare favourably with the overall figure.

Management. We have in the main adopted a strictly conservative attitude and allowed the breech and legs to be born spontaneously aiding the delivery of the arms and head as required. For the last two years we have been giving a generous episiotomy combined with local infiltration anaesthesia of vulva using a 2% solution of Novocaine in all primiparous patients where it has been possible to do so. General anaesthesia is often given during extraction of the head and the shoulders. Irving and Goethels in 1926 reported a reduction in foetal mortality by doing routine extractions, but we agree with Caldwell, Studdiford and Seeley in adopting a strictly conservative attitude. We have not induced premature induction of labour to any appreciable extent in our cases, and caesarean section has rarely been done for breech presentations alone. Our incidence for operative deliveries is 16.58% being rather low when compared with certain American writers whose figures range from 35%-65%.

Maternal morbidity did not show any appreciable increase as compared with vertex presentations, which is probably due to our conservative attitude. There were no serious maternal complications which could be attributed to the breech presentations. There is one maternal death in the series giving an incidence of 0.28%. This was, however, due to acute yellow atrophy and was in no way caused by the breech delivery.

The patient expired 36 hours after admission to the hospital and was delivered of 32 weeks' still-born foetus.

TABLE VI

Associated Maternal Pathology which might have contributed to the Foetal Loss

Toxaemias of preg.	11
Eclampsia	3
Essential hypertension	3
Pulmonary tuberculosis	2
Severe malaria	2
Severe anaemia	2
Broncho pneumonia	1
Congestive heart failure	1
Hydramnios	3
Placenta praevia A.P.H.	16
Accidental haemorrhage	5
Total	49

From the above we find that 49 mothers had associated conditions which were severe enough to influence the course of pregnancy and labour and may have contributed to the foetal mortality.

The high incidence of placenta praevia definitely increased the foetal death rate. Holland and Lane-Claypon in a report to the Medical Research Council concluded that "maternal ill health in pregnancy and perhaps also before the occurrence of pregnancy, has been shown to be a factor which is probably of great significance in relation to the occurrence of dead births." The low rate of maternal nutrition can also be judged by the fact that the average percentage of haemoglobin was found to be only 50% approximately.

Still-birth and Neonatal Mortality and Breech Deliveries. As this forms a very important portion of the subject under discussion we propose to discuss the various factors in some detail to draw some relevant conclusions.

miparae. Surely the above figures do not give us any ground for such an impression. Redman in his paper on "Foetal Mortality in Breech Presentation" has attempted to stress this aspect but our figures with a difference of over 9% bring the fact home

TABLE VII

Still Birth and Neonatal Mortality with Relation to Parity

	No. of cases	Died	Gross %	Corrected %
Primi	123	32	26.01	8.1
Multi	227	82	36.12	12.2
Total	350	114	32.54	10.26

Table VII shows our gross mortality figures as 26.01% and 36.12% for primiparae and multiparae respectively. As our series included a very high percentage of premature babies and a large number of malformed foetuses, our corrected mortality figures are 8.1% and 12.2% for primiparae and multiparae. From Table VII the foetal mortality in primiparae and multiparae can be seen at a glance and a very significant conclusion arrived at is that the foetal loss in multiparae exceeds that found in primiparae. In most text books and

very forcibly. Elimination of breech presentation in multiparae should be therefore carried out as thoroughly as in the primiparae. King and Gladden report 7.7% and 12.5% mortality rates for primiparae and multiparae respectively. Wilcox in his review presented 17.2% and 20.8%. They further state that the cause of this high foetal mortality is not very clear but considered the possibility of larger babies in the latter group. Taking our figures for larger babies, we were unable to draw any conclusions as the figures were too small.

TABLE VIII

Still Birth and Neonatal Mortality in Relation to Type of Delivery

	Total			Spontaneous delivery			Extraction operation.		
	No. of cases	Died	%	No. of cases	Died	%	No. of cases	Died	%
Primi	123	32	26.01	99	20	20.2	24	12	50
Multi	227	82	36.12	193	52	26.94	34	30	88.2
Total	350	114	32.5	292	72	24.65	58	42	72.4

in the minds of quite a few people the erroneous impression is conveyed that breech presentation in multiparae is safer and easier than in pri-

From the above table we find that we get an uncorrected foetal mortality of 32.5% which is an appalling figure when compared with other

TABLE IX

Relationship of Still-birth and Neonatal Mortality to the Birth Weight of Babies.

2 lb.-2 lb. 15 ozs.		3 lb.-3 lb. 15 oz.		4 lb.-4 lb. 15 ozs.		5 lb.-5 lb. 15 ozs.		6 lb.-6 lb. 15 ozs.		7 lb.-7 lb. 15 ozs.		8 lb.-8 lb. ozs.									
Total	Died %	Total	Died %	Total	Died %	Total	Died %	Total	Died %	Total	Died %	Total	Died %								
Primi	11	10	90.9	17	9	52.9	35	5	14.3	38	4	10.6	21	5	23.8	5	1	20.1	1	—	Nil
Multi	38	31	81.6	36	19	52.7	46	13	28.2	48	13	27.0	42	7	16.6	6	3	50	6	3	50
Total	49	41	83.2	53	28	52.8	81	18	22.2	86	17	19.7	63	12	19.5	11	4	36.3	7	3	42.8

authors. Most writers, however, give the corrected mortality, i.e. after deducting for prematurity, congenital malformations and other factors which have no bearing on the delivery itself. Our mortality figures for operative extractions are extremely high and require to be seriously looked into.

From Table IX it will be seen that 51.78% of all the infants were below 5 lbs. and the foetal loss for these infants is 43.33%. The mortality rates in the literature for viable premature babies, i.e. for those above 2500 Grms. or 3 lb. 8 oz. and above, vary from 14.3% to 48.1%. As we have also included the infant group of 2 lb. to 2 lb. 15 oz. the foetal loss in this group can by no means be considered too high. Morton in his paper states a general mortality of 36.8% for all premature babies. From the foregoing table we also find that the lowest foetal mortality is between 5-7 lbs. there being no increase on both sides of this figure. Here again we find that in practically all the individual groups the foetal mortality in multipara exceeded that found in the primipara.

TABLE X

Foetal Condition Related to Foetal Mortality

Cord prolapse	15
Harelip with torticollis	1
Spina bifida with hydrocephalous	8
Anencephaly	9
Foetal ascites	1
Hermaphrodite monster	1
Talipes with congenital heart	1
Cord tight round the neck	2
Macerated	21
Cause of death unknown	10
Died during delivery	17

Cord Prolapse. This is a fairly frequent complication and is responsible for the loss of quite a few babies. It occurs much more commonly in breech than in vertex presentations. Caldwell and Studdiford showed an incidence of 0.5% in all positions and this agrees closely with our findings. In our series of breech deliveries cord prolapse occurred 15 times giving an incidence of 4.8% which means that cord prolapse is 8 times more common in breech than in vertex presentations. Redman got a proportion of 1 to 6 in his cases. Analysing still further, we found that it occurred 13 times in multiparae or 86.6% of the total cases of cord prolapse were in multiparae. There were 12 still births and this accounted for 10% of the total foetal loss. From the above it will be seen that cord prolapse is a significant cause of foetal death in breech presentations. We agree with Studdiford and Scherman that routine examinations per vaginam should be performed as soon as the membranes rupture in every case of breech presentation. This complication is also likely to be met with more frequently in flexed breech. In the above, 11 cases were accounted for by flexed breech which occurs much more often in multigravida.

Congenital malformation is another fairly important cause of foetal loss. Quite a large number of malformations were incompatible with life and the commonest were those pertaining to the abnormalities of the foetal head. Hydrocephalous and anencephaly were seen 17 times. Most of these malformed fetuses were however premature, the malformations probably resulting in prema-

ture labour. Holland and Lane-Claypon showed that the deformities are a cause of premature labour and in their report 60% of the deformed infants were born prematurely. The total number of malformed infants in our series is 23 giving an incidence of 6.6%. Holland and Lane Claypon found an incidence of 6.7% out of 1673 dead births and neonatal deaths. In our hospital, the incidence of malformed dead infants in all positions is 2.56%.

Warkany in his paper showed that if rats were given a deficient diet during pregnancy the incidence of congenital malformations in the litter rose considerably. This, however, does not appear to be applicable to human beings because our figures tally with those of the English authors who get the mothers in a far better state of maternal nourishment.

Maceration. Twenty-one fetuses were still-born and in a state of maceration. These deaths could not be attributed to the hazards of breech delivery as the death probably occurred before labour began. Syphilis as a contributory factor to foetal death was positive in only two cases giving an incidence of 0.56%. Parsons quotes a Birmingham foetal death rate of 1.27% due to syphilis.

Still-birth and Neonatal Mortality due to Birth Injuries. In this group we have 27 babies in whom the foetal heart sounds were present before labour began and disappeared during the course of labour or the child expired in the neonatal period. Seventeen babies were still-born and 10 expired in the neonatal period. In 6 of the former there was no foetal heart on admission and the breach

was outside the vulva. These were the cases that had been handled outside before being brought to the hospital. In another 8 babies of this group, there were fairly obvious signs of intra-cranial injury and in 5 of them there were the classical signs of convulsions, attacks of cyanosis and other features. In 2 of the cases the cord was so tightly round the neck that the child had been practically strangled. It is in this large group where we can improve our figures for still-birth and neonatal mortality by performing good obstetrics.

Foetal deaths due to cord prolapse must be also directly attributable to the breech presentation and are also preventable deaths in the major part. In another 10 babies no cause of foetal death was found. Due to lack of routine post-mortems in our hospital it is difficult to discuss any aetiology of foetal death in these cases. One child presented the features of Rh. incompatibility with foetal ascites but as the rhesus factor is not tested in our hospital, it is very difficult to rule out erythroblastosis foetalis.

Summary and Conclusions.

1. 350 cases of breech delivery are reviewed from January 1945 to August 1950 giving an uncorrected still-birth and neonatal mortality of 32.54% and corrected foetal mortality figure 10.26%.

2. There is a large scope for improvement in the above figures and this can only be achieved by:—

- (a) careful pelvic assessment by clinical and radiological means

to detect the border-line cases because labour is definitely dangerous in these cases.

- (b) Labour should be allowed to progress spontaneously and interference only resorted to when absolutely necessary.
- (c) Wide and generous episiotomy with local novocaine infiltrations will save many a child from intracranial injuries.
- (d) Cases should be conducted only by senior residents with constant attendance by the obstetrician after the membranes have ruptured.
- (e) Careful looking after of the premature babies will help to bring down the foetal loss.

3. Multiparae show a higher foetal mortality as compared with primiparae. The proportions being 12.2% to 8.1% corrected neonatal and still-birth figures. This we explain on account of the high incidence of prolapsed cord and prematurity. Thus we wish to erase the erroneous idea that breech delivery is safe in the multipara.

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