MANAGEMENT OF PERSISTENT AND NEGLECTED BROW PRESENTATIONS

by

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Brow presentation is the most treacherous of all cephalic presentations. The management of this rare but dangerous complication is still a controversial subject. Although most authors advocate an attitude of watchful and intelligent expectancy, such a policy is generally unsuitable for most of our cases who are usually admitted late in labour with persistent and neglected brow presentation. The outcome of brow presentation, in our experience, is gloomy for both the mother and the foetus and is in no way comparable with the favourable results reported in the English literature by many authors like Meltzer *et al* (1968), Jennings (1968), Ingolfsson (1969), Berger *et al* (1967) and others. This disparity is related to many well-known social factors prevalent in Indian obstetric practice, such as lack of proper antenatal and intranatal care, delayed admissions, etc. The favourable outcome reported by the above authors is mainly due to the fact that these authors come across many cases of transient brow presentations since almost all their cases are booked cases. However, in developing countries like ours, we usually come across persistent and often neglected brow presentations only.

Material and Methods

Over a period of about 5½ years from 1-10-1969 to 30-4-1975, there were 41 cases of brow presentations among 10,346 deliveries. This gives an incidence of 1 in 252 deliveries, which seems to be the highest incidence so far reported. The dispersion of data on the incidence of brow presentation from related series is presented in Table I. In these 25 groups, there were 1395 brow presentations among 1,352,569 deliveries, a frequency rate of 1 in 970. Our incidence is nearly 4 times greater than this average.

Observations

The age and parity distribution does not significantly vary from that expected in our hospital population. This finding agrees with the observations of other authors. Pelvic contraction was noticed in about one fourth of our cases. In half the number of cases the cause was undetermined. Hydramnios, hydrocephalus, prematurity and oversized infants was noticed in the remaining one fourth of the cases. The reported incidence of pelvic contraction in brow series varies from 7.7% to 53.8% (Bhose, 1961; Jacobson and Johnson, 1962; Meltzer *et al*, 1968 and Jacob and Bhargava, 1974). We did not resort to intrapartum x-ray pelvimetry for cases of brow presentation. The diagnosis of pelvic contraction was established only by clinical examination.

All our patients were admitted as unbooked emergency cases. In only 1 case, the membranes were intact at the time of admission. In her, vaginal palpatory find-

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TABLE I

Incidence of Brow Presentation from 1943 to 1975

Sl. No.	Authors	Place	Period of study	Total deliveries	Brow presentation	Incidence
1 to 16*	Meltzer, Sachtleben and Friedman	Chicago (U.S.A.)	1943-65	730,447	556	1:1314
17	DeCosta	Ann Arbor (U.S.A.)	1945	349,984	460	1:760
18	Berger, Heimann and Wick	Univ. of Berne	1940-54	23,247	18	1:1292
19	Jennings	Univ. of Auckland (New Zealand)	1957-67	37,845	53	1.860
20	Ingolffson	Univ. of Lund	1932-67	78,260	91	1:869
21	Mudaliar and Menon	Madras (India)	1959-60	25,804	28	1:921
22	Masani	Bombay (India)	1954-58	43,842	24	1:1826
23	Jacob and Bhargava	Jaipur (India)	1968-72	13,488	36	1:375
24	Bhasker Rao	Madurai (India)	1966-71	39,306	88	1:447
25	Palanichamy (Present series)	Tirunelveli (India)	1969-75 (April)	10,346	41	1:252
		CUMULATIVE TOTAL:		1,352,569	1,395	1:970

* Total of 16 series reported in the English Literature during the years from 1943 to 1963 and cited by Meltzer *et al* (1968).

ings were confirmed radiologically. Forty patients (97.5%) had been in labour prior to admission for a few hours to many hours aftet rupture of membranes. In all cases, the diagnosis was established by vaginal examination before delivery.

The maternal complications are shown in Table II. Premature amniorrhexis

TABLE II
Maternal Complications

Complications	No. of cases
1. Premature amniorrhexis	33
2. Gross intrapartum sepsis	25
3. Rupture of uterus	8
4. Threatened rupture of uterus	9
5. Cord prolapse	1
6. Intrapartum eclampsia	1
7. Atonic P.P.H.	3
8. Uterine artery injury (during caesarean section)	4
9. Maternal Morbidity:	
a. V.V.F.	2
b. Obstetric palsy	2
c. Others	15
10. Maternal Deaths	2

occurred in over 80% of cases. The cervix was already fully dilated at the time of admission in 27 cases (65%). Of them, there was evidence of impending rupture of uterus in 9 cases (22%). The uterus had already ruptured in 8 cases (19.5%). In one of them, forceps delivery had been attempted outside in a peripheral hospital and in another case, pitocin had been administered intramuscularly by a doctor in a Primary Health Centre. In 61% of cases, there was gross sepsis of the birth canal. Three of them were admitted with severe dehydration and keto-acidosis. In 16 cases, F.H. was absent at the time of admission.

Spontaneous conversion of the brow into a vertex occurred in 1 patient (2.4%) who was admitted early in labour with intact membranes. This incidence of spontaneous conversion is much less than the incidence reported by Meltzer *et al* (1968), Jennings (1968), Ingolfsson (1969), Berger *et al* (1967) and others. Brow presentation persisted in the remaining 40 cases (97.5%). In the management of persistent brow presentations, we do not adopt expectant policy, since all our women had already been in labour for sufficiently long time prior to admission. Craniotomy was done in 14.6%. Caesarean section was done in 61%. Caesarean hysterectomy was performed in 1 grand multipara who was admitted with gross intrapartum sepsis and impending rupture of uterus. There were 8 cases of rupture of uterus and were treated by hysterectomy (4 cases) and suturing of the rent in 4 cases (Table III).

TABLE III
Nature of Delivery and Perinatal Mortality

Nature of delivery	No. of cases	P.N.M.*
1. Spontaneous conversion and L. Natural	1	Nil
2. Mid Forceps with Craniotomy	6	6
3. Lower segment caesarean section	25	1
4. Caesarean hysterectomy	1	1
5. Rent Repair with sterilization	4	4
6. Subtotal hysterectomy	4	4
Total	41	16 (39%)

* In all cases, F.H. was absent at the time of admission.

Two mothers were lost (4.9%). These women were admitted with gross intrapartum sepsis and impending rupture of uterus and both were delivered by lower segment caesarean section. Both mothers

died as a result of septic shock on the 6th and 8th postoperative days respectively. There were no maternal deaths in the series reported by Meltzer *et al* (1968), Ingolfsson (1969), Berger *et al* (1967), Jennings (1968), and Jacob and Bhargava (1974).

Maternal morbidity was noticed in 19 cases (46.3%). Vesicovaginal fistula and obstetric palsy occurred in 2 cases each. In the remaining 15 patients, other puerperal complications such as fever, ileus, thrombophlebitis, breast engorgement, etc. were noticed.

Altogether 16 babies were lost (39%), including one case of hydrocephalus. In all these cases, F.H. was however absent at the time of admission. The corrected perinatal mortality rate varies from 1.28% (Meltzer *et al*, 1968) to 5.8% (Jennings, 1968). The distribution of the birth weight of these babies is shown in Table IV. There was no statistically significant deviation from the expected pattern of birth weights for the entire hospital.

TABLE IV
Birth Weight

Birth Weight	No. of cases
2.0 to 2.5 Kg.	6
2.6 to 3.0 Kg.	19
3.1 to 3.5 Kg.	12
3.6 to 4.0 Kg.	3
4.1 Kg. and over	1

Discussion

All authorities agree that brow presentation is the most dangerous of all cephalic presentations. Since brow presentation represents an attitude of extension of the head midway beween a vertex and a face, it should be presumed that all secondary face presentations pass through a transient stage of being brow presentations. Therefore, a brow presentation, discovered in early labour is not necessarily of such serious significance (Baird, 1969). However, when the brow presentation persists, a favourable outcome cannot be expected.

Management of persistent brow presentation often presents a dilemma for the individual obstetrician. He has to make decisions concerning (1) whether or not to allow a trial of labour, (2) whether and when to attempt conversion to vertex or face and (3) choice of type of delivery (Meltzer *et al*, 1968). In an excellent analysis of 156 brow presentations. Meltzer *et al* (1968) have evolved a meaningful approach to the management of this relatively rare complication of parturition. They have concluded that 'labour should be permitted, except in cases of obvious documented unsurmountable disproportion. Uterotonic stimulation should be avoided, where possible. Manual or forceps conversion should be tried if arrest occurs. When it fails, abdominal delivery is quite likely. After conversion, second stage arrest of descent in the midpelvis without disproportion warrants "trial forceps." Greenhill (1968) concurs completely in the management of brow presentations as outline by these authors. However, DeCosta (1968) has stated that "we often solve our dilemma in managing persistent brow presentation by resorting to cesarean section". He argues that this might avoid extensive vaginal and pelvic trauma. According to Clyine (1963), caesarean section is the only sensible line of action. Clyne further points out that because of the appalling difficulty in delivering a dead fetus by craniotomy, many obstetricians are strongly in favour of cesarean section in all cases.

Obstetricians in India do not generally

adopt an attitude of watchful expectancy when encountered with a case of persistent brow presentation. Our observations are similar to the observations of Jacob and Bhargava (1974). Booked labours are uncommon. In this series, all cases were admitted as unbooked emergency cases. Most of them had been in labour for a few hours to many hours after rupture of membranes. Eight patients had rupture of uterus and in 9 cases, there was evidence of impending rupture of uterus. Twentyfive patients were admitted with gross sepsis of the birth canal.

In India, women in labour generally delay admission until certain complications requiring operative delivery have occurred. It is more likely that many cases of brow presentation in whom spontaneous conversion has occurred may not get admitted at all. Even while in an institution, the existence of brow presentation early in labour might escape attention if uneventful delivery follows spontaneous conversion. Because of these reasons, it is not possible to ascertain the true incidence of transient brow presentation. Most of the cases seen by us represent persistent brow presentations. Nearly half of our cases were seen with neglected brow presentations. Rupture of uterus is not an uncommon complication of neglected brow presentation.

Under such circumstances peculiar to obstetric practice in India, expectant management of brow presentation is seldom practicable. The policy of watchful expectancy no doubt has got definite place in the management of brow presentation seen early in labour with intact membranes, provided other unfavourable factors such as pelvic contraction, big baby, elderly primiparity, etc. are excluded. In the present series, safe vaginal delivery was possible in only 1 case (2.4%) Meltzer *et al* (1968), Berger *et al* (1967) and Ingolfsson (1969) have reported safe vaginal delivery in over 70% of cases. In Jacob and Bhargava's series, there were two spontaneous deliveries (5.5%), but the babies weighed only 250 g.

We resort to caesarean section more frequently, especially when the baby is alive and the uterus is not grossly infected. In our series, abdominal delivery was indicated in 83% of cases, compared to 91.6% in Jacob and Bhargava's series. The reported incidence of caesarean section for brow presentation varies from 25% (Meltzer *et al*, 1968; Ingolffson, 1969; and Berger *et al*, 1967) to 57% (Jennings, 1968). According to Moir (1974), caesarean section is the treatment indicated for the great majority of brow cases, and Clyne (1963) claims that caesarean section is the only sensible line of action. In exceptional cases, delivery by caesarean section even of a dead foetus and even in an infected case may be less dangerous (Baird, 1963). The author has observed that uterine artery injury is more frequent during caesarean section at the time of levering out the head. In our series this accident occurred in 4 cases of brow-transverse positions. This is because the fetal head is attempting to engage with its maximum engaging diameter.

We prefer to do craniotomy in patients admitted with gross sepsis and dead or moribund foetus. In this series, craniotomy was done in 14.6% of cases. It is very important to realise that delivery of the brow presentation by craniotomy is by no means an easy job and this procedure must therefore be undertaken only by skilled obstetricians. Usually, mid-forceps application is necessary to effect delivery of the perforated head. The author is personally convinced that

Braun's cranioclast is a very useful substitute in some difficult situations, though the text books describe this instrument as of "historical interest" only. Braun's cranioclast consists of two blades, one of which is pushed through the opening in the skull and the other is applied to the outside. The two blades are then forcibly brought together by a strong screw at the end of the handles and then traction is applied in the appropriate direction.

Other methods of management of brow presentation do not merit consideration, while discussing the management of niglected brow cases. Version and extraction have been frowned upon (Moir, 1971; and Posner *et al,* 1957). Attempts at manual or forceps conversion are still favoured, but only when obstruction is diagnosed early in labour. Manual or forceps conversions will be traumatic to both mother and foetus when such monoeuvres are attempted in neglected brow cases. Moir (1971) has stated that "in neglected brow presentation, it is usually impossible to bring about a conversion into a vertex. Often the child at this stage is dead and craniotomy is the reasonable alternative." Ingolfsson (1969) has stated that vacuum extraction is permissible in brow presentation, but it is likely to slip or cause trauma to the delicate skin over the forehead.

Summary

1. Persistent brow presentation occurred once in 252 deliveries.

2. One half of the patients were admitted with neglected brow presentation, with rupture of uterus in 19.5%.

3. The only patient who was admitted with intact membranes early in labour delivered normally after spontaneous conversion into vertex.

4. Caesarean section and craniotomy were done in 61% and 14.6% respectively.

5. There were two maternal deaths (4.9%).

6. The maternal morbidity rate was 46.3%.

7. The gross perinatal mortality rate was 39%.

8. The management of peristent and neglected brow presentation has been outlined.

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