

## MANAGEMENT OF TRANSVERSE LIE IN LABOUR

by

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Due to inadequate antenatal supervision in our country, a large number of cases of transverse lie are admitted late in labour. In these cases not only the baby is in danger, but the maternal risk also increases considerably. The proper and judicious management of such cases can only offer some hope for the safety of the mother and her baby. In the present article an attempt has been made to study the cases of transverse lie in labour and evaluate the merits and demerits of the different methods of management.

### *Materials and Methods of Study*

The present study is based on an analysis of 97 cases of transverse lie admitted in labour in the Eden Hospital, Calcutta, from April 1960 to October 1962. During the same period a total of 29,100 obstetric cases were admitted in the same hospital. Thus the frequency of transverse lie in this series is 1 in 300 deliveries or 0.27% (Table I).

Of these 97 cases, 2 were twin pregnancies in labour. Most of the cases did not attend the antenatal clinic, nor did they have any proper antenatal supervision. In every case after admission into

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TABLE I  
*Incidence of Transverse Lie.*

De Lee	1 in 200
Torpin (1940)	1 in 1000
Novoy and Schneider (1941)	1 in 250
Careis and Retzenthaler (1952)	1 in 322
Munro Kerr (1956)	1 in 150
Dawn (1956)	1 in 300
Mahale (1963)	1 in 466
	(K.E.M. Hosp.)
	1 in 202
	(Wadia Mat. Hosp.)
Chakravarty (1964)	1 in 133
Parikh and Parikh (1964)	1 in 107
Tamaskar (1964)	1 in 75.6
Dalal (1970)	1 in 49
Present series	1 in 300

the hospital thorough history was taken and clinical and special examinations were performed. Appropriate treatment was carried out on individual patient.

### *Analysis of data*

Table II shows the various methods of management adopted in the present series.

TABLE II  
*Methods of Management*  
*(Total No. of cases 97)*

No.	Operation	No. of cases	%
1.	External version	8	8.2%
2.	Bipolar version	1	1.1%
3.	Internal podalic version	27	27.8%
4.	Caesarean section	37	38.1%
5.	Destructive operations	23	23.7%
6.	Spontaneous expulsion	1	1.1%

1. *External Version:* In the present series external cephalic version was at-

tempted on 8 cases. The results of external cephalic version are as follows:

- (a) Successful external version followed by vaginal delivery 5 cases  
 (b) Unsuccessful external version 3 cases

Group (a) includes 2 second baby of twin pregnancies and 2 cases of hydramnios where following external cephalic version, membranes were ruptured. Group (b) includes 3 primiparas, where external cephalic version failed and caesarean section was performed. In 2 of these cases uterine malformation was detected during the operation.

2. *Bipolar Version:* This was attempted on one patient, a multigravida complicated with ante-partum haemorrhage at 33 weeks of gestation with the baby lying in oblique position, breech in right iliac fossa, the cervix 2 fingers dilated and the membranes were intact. Further delivery was spontaneous (Weight of the baby was 4 lbs. 10 oz.).

3. *Internal Podalic Version:* This was attempted on 27 cases; all were multigravida. In all these cases it was attempted when the cervix was fully or nearly fully dilated, baby was alive and sufficient liquor was present. This includes 2 cases of cord-prolapse and one case of hand prolapse. Breech extraction was performed on every case. There was one rupture of uterus following internal version for which subtotal hysterectomy had to be performed. The mother did well. The baby was still born.

4. *Caesarean Section:* This was performed on 40 cases, including the 3 cases where external version failed. Lower uterine segment caesarean section was performed in, all the cases. In 3 cases in addition to transverse incision in lower uterine segment, a vertical incision was made to facilitate the delivery of the child. The associated indications for caesarean section are presented in Table III.

TABLE III  
 Associated Indications for Caesarean Section in Transverse Lie.

No.	Associated conditions	No. of cases	%
1.	Contracted pelvis	6	15%
2.	Placenta praevia	5	12.5%
3.	Cord prolapse	3	7.5%
4.	Foetal distress	1	2.5%
5.	Premature rupture of membranes	12	30%
6.	Combination of 4 and 5	4	10%
7.	Obstructed labour	7	17.5%
8.	Uterine malformation (detected during caesarean section after unsuccessful external version).	2	5%

5. *Destructive operations:* These were performed on 23 cases and the nature of the operations were as follows:

- (a) Decapitation .. 8 cases  
 (b) Evisceration .. 15 cases

Decapitation was performed when the neck of the child was within reach but when it was high up, evisceration was performed. This whole series of 23 cases includes 3 cases of hand prolapse and 3 cases of contracted pelvis. There was one maternal death due to right sided lateral rupture of uterus, following decapitation.

6. *Spontaneous Expulsion:* This occurred in one case, a multigravida in second stage of labour with ruptured membranes. While preparations for a destructive operation were being made, a stillborn macerated foetus was delivered in doubled up position.

The different methods management are correlated to parity, duration of pregnancy, duration of labour and the birth weights of babies in the following tables. The single case of spontaneous expulsion has been excluded.

Exact time of onset of labour was difficult to determine in these cases. Patients' history was the main source from which the data has been collected. Internal ver-



TABLE IV  
*Relation of Duration of Pregnancy With Different Methods of Management*

Duration of preg.	Successful ext. version.	Bipolar version	Internal version	Caesarean section	Destructive operations.	Total No. of cases.
Less than 34 weeks		1				1
34 to 36 weeks			8 (53.3%)	3 (20.0%)	4 (26.7%)	15
37 to 39 weeks	4 (5.9%)	(25.5%)	17 (25.5%)	30 (44.7%)	16 (24.1%)	67
40 weeks	1 (7.8%)		2 (15.4%)	7 (53.6%)	3 (23.2%)	13

TABLE V  
*Relation of Duration of Labour With Different Methods of Management*

Hours of labour	Successful ext. version.	Bipolar version	Internal version	Caesarean section.	Destructive operations.	Total No. of cases.
6 to 12 hours	3 (23.1%)	1 (7.6%)		9 (69.3%)		13
13 to 24 hours	2 (2.7%)		27 (35.6%)	26 (34.3%)	21 (27.4%)	76
24 Hours & above				5 (71.4%)	2 (28.6%)	7
Total	5	1	27	40	23	96

sion, destructive operations, and caesarean sections were performed in nearly equal frequency when the patients came between 13 to 24 hours after the onset of labour. There was no scope for internal version on patients having been in labour for more than 24 hours.

TABLE VI  
*Average Birth Weights of Newborns in Different Methods of Management*

Mode of termination	Average birth weight.
1. Vaginal delivery after corrected lie	5 lbs. 10 oz.
2. Caesarean section	5 lbs. 6 oz.
3. Internal version	5 lbs. 4 oz.
4. Destructive operations	5 lbs. 5 oz.
5. Bipolar version (one case)	4 lbs. 1 oz.
6. Spontaneous expulsion	—

From Table VII, it is evident that grave obstetrical complications like postpartum haemorrhage, shock and rupture of the uterus were common with internal version and the destructive operations. There was one maternal death following decapitation.

The foetal losses are shown in Table VIII.

The overall foetal mortality in internal version and caesarean section is practically the same. To find out the corrected foetal mortality, the associated conditions present with the transverse lie and prematurity were excluded. Among the associated conditions present, placenta praevia was the only one which could have been held responsible for increased foetal mortality. Table IX illustrates these findings.

TABLE VII  
*Types of Obstetrical Complications in Different Modes of Termination*

Complications.	No. of cases in			
	Vag. delivery with corr. lie	Caesarean section	Internal version	Destructive operations
1. Post Partum hge.			1	1
2. Shock		3	2	4
3. Cervical tear			1	
4. Laceration				
4. Laceration of vag. wall				2
5. Rupture of uterus			1	1
6. Puerperal urinary comp.	1		2	1
7. Puerperal pyrexia		10	2	6

TABLE VIII  
*Foetal Mortality*

Mode of delivery	Total No.	No. of Stillbirths.	No. of Neonatal deaths.
1. Vag. delivery with corrected lie	5	0	0
2. Caesarean section	40	7 (17.5%)	8 (20.0%)
3. Internal version	27	9 (33.3%)	3 (11.1%)
4. Bipolar version	1	0	1
5. Destructive operations	23	23	0
6. Spontaneous expulsion	1	1	0
Total	97	40	12

TABLE IX  
*Associated Obstetrical Conditions Contributing to Foetal Mortality*

Mode of delivery.	(Placenta praevia) No. of		(Prematurity) No. of	
	Neon. deaths.	Stillbirths	Neon. deaths.	Stillbirths
1. Vag. delivery with corr. lie	0	0	0	0
2. Caesarean section	3	1	5	1
3. Internal version	0	0	2	6
4. Bipolar version	1	0	0	0
5. Spontaneous expulsion	0	0	0	1

### Discussion

The increased foeto-maternal hazards in shoulder presentation has been stressed by various authors (Mahale, 1963; Tamaskar, 1964; Chakravarty, 1964).

External version as a method of correction of lie is seldom successful after the onset of labour. In multipara an attempt should be made if the patient is seen in very early first stage of labour with membranes intact. In the present

series, in 3 cases this attempt was successful and in each case membranes were artificially ruptured after the vertex was brought to the pelvic brim. In 2 cases of twin pregnancies the transverse foetal lie could be corrected by this method after the delivery of the first baby. In primigravida this procedure is difficult to follow as pointed out by Munro Ker (1956)—“the malpresentation is nearly always associated with some uterine or pelvic mal-



formation or very early labour—a central placenta praevia". In the present series also, external version failed in 2 cases, both primigravidas because of uterine malformation. The value of external version in properly selected patients attending antenatal clinic should be borne in mind (Tamaskar, 1964). In many instances it will minimise the incidence of operative deliveries.

Bipolar version as a method of management of transverse lie is becoming obsolete nowadays. However, in an exceptional circumstance, as was present in the single case in the present series, this method could be useful. The case in example had a Type I placenta praevia with active bleeding requiring immediate interference and termination.

Internal podalic version was performed on 27.8% of the cases. As the duration of pregnancy advanced towards term, the scope for internal version was also diminished (Table IV). In no case could internal version be attempted when the patients came in labour for more than 24 hours. Following internal version, the stillbirth and neonatal death rates were high. Mangone and Kane (1955) have also reported a foetal mortality of 48.3% following internal version. The maternal complications were more frequent in the internal version group, compared to the group managed by caesarean section. There was one case of rupture of uterus, a complication also noted by other authors (Gareis and Retzenthaler, 1952, Mahale, 1963).

Caesarean section as a method of treatment for transverse lie is gaining popularity. Mahale (1964) reported an incidence of about 25%, Dalal (1970) about 50%, while in the present series 38.1% of the cases were treated by caesarean section. Caesarean section assures better maternal safety, especially where there

are other associated obstetrical factors complicating the transverse lie. Although caesarean section ensures better safety for the mother, the foetal outcome in this series was not very satisfactory. The total foetal loss was 37.5% whereas Mangone and Kane (1955) reported a foetal death rate of 9.5%. Mahale (1963) did not encounter any foetal death in his series delivered by caesarean section. The higher foetal mortality of the present series could be attributed to the following factors:

- a. Most of the cases came late in labour with foetal distress superimposed.
- b. Prematurity.

The incidence of caesarean section was higher in those cases where duration of pregnancy was near term (Table V). However, the duration of labour did not influence the incidence of caesarean section in the present series. In early labour caesarean section gave good prospect for both mother and foetus, whereas in late labour it was performed for maternal safety because in many cases the prospect of the child being born alive were nil.

During caesarean section the type of incision made on the uterus depended on the stage of labour. In early labour, with sufficient liquor amnii still present a lower segment transverse incision was possible but in cases late in labour, extraction of the baby through such an incision was difficult. In 3 such cases coming late in labour a deliberate inverted "T" incision was made on the uterus to ease the delivery of the child. Munro Kerr (1956) has also advised similar procedure in cases with impacted shoulders in order to obviate any lateral extension of the incision. However, this should not be practised as a routine as the danger lies in the poor healing of the uterine scar. Mahale (1963) advocated anchoring sutures at the angles prior to extraction



of foetus, in addition to curving the lateral ends of the lower segment incision upwards to limit the possibility of ragged lateral extension. But in following this procedure, one should keep in mind the possibility of laceration of the anterior wall of lower uterine segment with chances of extension of the tear upto the vaginal vault, especially in cases where the foetus is impacted.

In the present series, severe complications were less following caesarean section than following either internal version or destructive operation (Table VIII).

All cases undergoing destructive operations presented with the features of prolonged and obstructed labour and the obstruction was relieved either by decapitation or by evisceration. The choice between these two operations rested on the ease with which the neck could be reached. Apart from this factor of accessibility to the foetal neck, it was also noted that in presence of impaction of foetus in the pelvis, there was hardly any room to manipulate a standard decapitation knife or a Gigly saw as modified by Mitra and John (1950). As such evisceration appeared to be more useful and less dangerous than decapitation. In the operation of evisceration one first of all reduces the foetal bulk from a stretched lower uterine segment, besides working inside the foetal body cavity is less apt to cause trauma to maternal tissues. Considering these two points, evisceration was performed more frequently than decapitation (in the present series) where either of these operations was imperative and feasible.

At present, when caesarean section is so safe one should think of widening its scope in maternal interest especially in cases where one apprehends rupture by any type of vaginal manipulation. Destructive operations are justified be-

cause deliveries following a previous caesarean section must be properly managed, which is not appreciated by most women in India.

#### *Summary and Conclusion*

1. Ninety-seven cases of transverse lie in labour have been presented.

2. Different methods of management in relation to various factors have been analysed.

3. External and bipolar versions have little scope in the management of transverse lie in labour, although the former should have a trial in some selected cases, particularly in multigravidae.

Internal version is a satisfactory method of treatment provided the baby is small and there is good relaxation of the uterus in between the contractions. The outcome for the baby is not so promising.

Caesarean section offers the best prospect for the mother at all stages of labour and for the baby if the patient comes early in labour.

Destructive operations are of value only in a few selected cases of obstructed labour.

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#### *References*

1. Chakravarty, B.: J. Obst. & Gynec. India. 14: 752, 1964.
2. Dalal, N. J.: J. Obst. & Gynec. India. 20: 352, 1970.
3. Dawn, C. S.: Calcutta Med. J. 53: 16, 1956.

4. Gareis, L. C. and Retzenthaler, J. C.: Am. J. Obst. & Gynec. 63: 583, 1952.
5. Greenhill-Delee: Principles & Practice of Obstetrics, ed. 11, (Philadelphia, 1955, Saunders).
6. Mahale, R. S.: J. Obst. & Gynec. India. 13: 205, 1963.
7. Mangone, E. and Kane, W. M.: Am. J. Obst. & Gynec. 69: 742, 1955.
8. Mitra, K. N. and John, M. P.: J. Obst. & Gynec. India. 1: 65, 1950.
9. Munro Kerr and Chassor Moir: Operative Obstetrics ed. 6, London, 1956, Bailliere, Tindall & Cox.
10. Novey, M. A. and Schneider, M. M.: Am. J. Obst. & Gynec. 41: 53, 1941.
11. Parikh, K. S. and Parikh, S. R.: J. Obst. & Gynec. India, 14: 858, 1964.
12. Tamaskar, K. P.: J. Obst. & Gynec. India. 14: 128, 1964.
13. Torpin, R.: Am. J. Obst. & Gynec. 39: 92, 1940.