THE MANAGEMENT OF TRANSVERSE LIE IN LABOUR*

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SUMMARY

The management of 410 cases of transverse lie in labour at Baragwanath Hospital during the period 1964 - 1968 is analysed. Two conclusions may be drawn.

Caesarean section *should be performed in the following cases*:

(a) *In patients in whom the membranes have been ruptured—a classical caesarean section is recommended in cases with an impacted shoulder with prolapse of a limb and a tonic contracted uterus;*
(b) *for cases where the cause of the malpresentation is placenta praevia;*
(c) *where the cord presents or is prolapsed;*
(d) *where labour has been protracted; or*
(e) *where the lower segment is judged to be 'unsafe'.*

Internal version *may be considered*:

(a) *If the membranes are intact or very recently ruptured and where dilatation of the cervix will permit immediate delivery; and*
(b) *delivery of the second twin.*

The problem of the correct management of transverse lie in labour is still poorly defined in the literature and in many teaching hospitals. An assessment of this complication in labour, as seen at Baragwanath Hospital, is presented in an effort to clarify this problem.

CLINICAL MATERIAL

In the period 1964 - 1968, 83 502 patients were admitted to the obstetrical section of the hospital and 56 449 patients were delivered in the wards of the unit. Transverse lie of the foetus was found in 410 patients who were in labour—an incidence of 1 in 138 deliveries. Patients with a transverse lie of the foetus, but who were not in labour, have been excluded from this analysis.

Table I reflects the incidence of this complication as quoted by various authors. The incidence at Baragwanath Hospital is the highest in this list of quoted series, probably because Baragwanath Hospital is the only maternity hospital serving the entire Bantu population of the Johannesburg area (1·5 million); most of the unbooked cases therefore represent those with abnormalities in labour.

TABLE I. INCIDENCE IN RELATION TO RECENT PUBLISHED SERIES

Author	*Year*	*No. of cases*	*Incidence*
Wilson *et al.*[1]	1957	105	1:268
Wood & Forster[2]	1959	174	1:400
Winkler & Cangello[3]	1960	133	1:379
De Lee & Greenhill[4]	1949	?	1:200
Hall & O'Brien[5]	1961	91	1:1 200
Posner *et al.*[6]	1962	111	1:355
Yates[7]	1964	50	1:204
Cockburn & Drake[8]	1968	185	1:299
Present series (Baragwanath)	1970	410	1:138

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The management of transverse lie in labour is usually determined by the causative factor and other complications associated with the abnormal lie. Before treatment is instituted a careful examination must be made to exclude such conditions as placenta praevia, pelvic contraction and tumours which will prevent the entry of the presenting part into the pelvis.

The association between transverse lie and the second twin is also an important consideration in the management of this condition. In this series the association was present in 71 cases.

There were 101 cases of transverse lie occurring in grand multiparae, and here laxity of the anterior abdominal wall was the primary cause involved.

Stevenson[9] drew attention to the position of the placenta in oblique and transverse lie. He quoted placenta praevia as the causative factor in 27% of his series of transverse lies. Such a high incidence has not been substantiated by figures from other series. In this present series, placenta praevia was the causative factor in 34 cases (8·3%) in labour.

Complications such as prematurity and foetal death *in utero* will obviously influence the choice of treatment of this condition and account for a considerable part of the foetal wastage.

Table II summarizes the causative factors in cases of transverse lie in this series from Baragwanath Hospital.

TABLE II. CAUSATIVE FACTORS (BARAGWANATH SERIES)

Diagnosis	*No. of cases*	%
Grand multiparity	101	24·6
Multiple pregnancy:		
Retained second twin	71	
First twin	2	19·5
Triplets	7	
Placenta praevia	34	8·3
Contracted pelvis	9	2·2
Fibroids	4	1·0
Congenital uterine anomaly	2	0·5
Prematurity	85	20·7
No apparent cause	95	23·2
	410	100·0

Apart from the factors mentioned above, other considerations such as duration of labour, the dilatation of the cervix, the state of the membranes and the condition of the lower segment must be taken into consideration before the choice of treatment is finalized.

Membranes

There is no doubt that the most important factor in this problem is the state of the membranes. If obstetrical procedures (other than caesarean section) are to be adopted, then the quantity of liquor amnii present is of paramount importance in the management of this condition.

The methods which were utilized in this series are presented in Table III.

TABLE III. TREATMENT OF TRANSVERSE LIE (BARAGWANATH SERIES)

	No. of cases	Infant mortality		Uterine rupture	Maternal death
		No.	%		
Caesarean section	161	31	19·4	1	2
Internal version and breech extraction	217	102	47·0	9	1
Spontaneous evolution	19	19	100	—	—
Destructive operations	5	5	100	—	—
External version	8	5	62·5	—	—

Comparison with other authors is given in Table IV.

TABLE IV. COMPARISON OF RESULTS OF VARIOUS AUTHORS

Author	No. of cases	Infant mort. %	Uterine rupture	Maternal death
Wood & Forster[2]				
Caesarean section	51	15·7	—	—
Internal version and breech extraction	72	57	2	1
Spontaneous evolution	8	100	—	—
Destructive operations	2	100	—	—
External version	13	17·6	—	—
Cockburn & Drake[8]				
Caesarean section	62	6	8*	—
Internal version and breech extraction	98	26	—	—
Spontaneous evolution	0	0	—	—
Destructive operations	0	0	—	—
External version	21	19	—	—
Spontaneous delivery	5	80	—	—
Garies & Ritzenhaler[10]				
Caesarean section	32	25	—	1
Internal version and breech extraction	81	35·8	3	—
Spontaneous evolution	6	100	—	—
Destructive operations	6	100	—	—
External version	17	17·6	—	—

*Cause of rupture not stated.

MANAGEMENT OF LABOUR WHEN MEMBRANES ARE RUPTURED

There were 261 patients in this group and each of the methods used are discussed. Table V gives the results of cases dealt with when the membranes were ruptured.

TABLE V. MANAGEMENT OF CASES WITH RUPTURED MEMBRANES (BARAGWANATH SERIES)

	Caesarean section	Internal version and breech extraction	Decapitation	Spontaneous evolution
No. of cases	102	135	5	19
Fresh stillbirth	20	51	4	3
Macerated stillbirth	3	35	1	16
Neonatal death	3	9	0	0
Ruptured uterus	1	6	0	0
Maternal death	2	1	0	0
Surviving infants	76	40*	0	0
Infant mortality	25·9%	70·3%	100%	100%
Corrected infant mortality	7·8%	57·7%		

*Including 25 cases of 2nd twin.

Caesarean Section

One hundred and two cases were treated by caesarean section. All patients had been in labour for more than 24 hours and the membranes had been ruptured for longer than 12 hours. These were admitted as unbooked emergencies in labour. There were 11 premature infants in this group. Three foetuses were dead on admission and were macerated on delivery; 20 were stillborn, of which 18 were associated with prolapsed cords, and 3 died in the neonatal period. The foetal survival rate was 74·1% (corrected 92·2%).

One uterus was partially ruptured. This occurred in a patient admitted as an unbooked emergency case who had been in labour for more than 36 hours, with the membranes ruptured for 30 hours. The foetus was dead and the lower uterine segment was considered to be unsafe. She died 5 weeks later from fulminating septicaemia. One other patient died from septicaemia following caesarean section.

Internal Version and Breech Extraction

This group included 135 patients, of whom 25 were admitted to hospital with the second twin retained for some time. Forty infants survived this procedure, a foetal death rate of 70·3% (corrected 57·7%).

There were 9 instances in which the uterus ruptured as a result of this procedure and one patient died as a result of this superimposed complication.

Decapitation

In 5 cases the abnormal lie was treated by decapitation of the foetus, followed by extraction. All 5 foetuses were macerated stillbirths. This form of treatment was performed as the neck was easily accessible and the lower segment was judged to be 'safe'.

External Version

This procedure was not followed as no patient was considered suitable for external version because of the absence of liquor amnii.

Spontaneous Evolution

Nineteen patients were admitted to hospital in labour with transverse presentation, in whom spontaneous evolution occurred, before any form of treatment could be instituted. All the infants were small and severely macerated.

The total uncorrected foetal wastage rate in this group of 261 cases presenting with transverse presentations and ruptured membranes, was 53·2%. The corrected rate was 39·1%.

Ten patients suffered a rupture of the uterus; one was spontaneous but 9 were ascribed to the vaginal manipulations performed to accomplish delivery. There was one maternal death in this group.

MANAGEMENT OF LABOUR WHEN MEMBRANES ARE INTACT

This group comprised 149 patients. A summarized form of the various methods of delivery appears in Table VI.

Caesarean Section

Fifty-nine cases were delivered by caesarean section and 54 babies survived—a salvage rate of 91·5% (corrected 93·1%).

Placenta praevia was found to be the causative factor in 18 patients and a cord presentation occurred in 3 patients. In 2 patients a large pelvic fibroid prevented

TABLE VI. MANAGEMENT OF CASES WITH INTACT MEMBRANES (BARAGWANATH SERIES)

	Caesarean section	*Internal version and breech extraction*	*External version*	*Spontaneous evolution*
No. of cases	59	82	8	0
Fresh stillbirth	0	9	2	0
Macerated stillbirth	1	2	0	0
Neonatal death	4	9	3	0
Ruptured uterus	0	0	0	0
Maternal death	0	0	0	0
Surviving infants	54	62*	3	0
Infant mortality	8·5%	24·8%	62·5%	—
Corrected infant mortality	6·9%	11·0%		

*Including 46 cases of 2nd twin.

entry of the presenting part into the pelvic brim and in 2 cases a congenital uterine anomaly was the cause of the condition.

Of the 5 infant deaths, 3 occurred in the placenta praevia cases. All the babies were premature and one was a macerated stillbirth. Rupture of the uterus did not occur in this group.

Internal Version

This group comprised 82 patients and multiple pregnancy occurred in 46 cases. Transverse presentation of the 2nd twin was present in 40 twin pregnancies and 6 occurred in the second of triplet pregnancies.

On admission to hospital 71 of the foetuses were alive and 11 had already died *in utero*. After internal version had been performed 62 infants survived and 9 died in the neonatal period. There were 11 cases of stillbirths. The uncorrected foetal loss was 24·8% and the corrected figure was 11%. The procedure did not result in any injury to the maternal tissues and there were no maternal deaths.

External Version

In this group there were 8 cases. In two of these intrauterine death had occurred before admission. Of the remaining 6 only 3 babies survived, the other 3 being neonatal deaths from prematurity and respiratory distress syndrome. The surviving infants progressed satisfactorily and there were no maternal complications.

The total foetal wastage in this group of transverse presentations occurring in patients with intact membranes was 15·5% which was corrected to 8·1%. There were no maternal deaths and no cases of rupture of the uterus.

DISCUSSION

From the evidence of the analysis presented, the management of transverse lie in labour can be divided into 2 categories. This is dependent upon one important factor—the state of the membranes.

With ruptured membranes there appears to be no place for any other procedure but caesarean section, except in the case of the second twin.

In this series 261 cases were admitted with ruptured membranes. One hundred and two cases were treated by caesarean section with a corrected foetal mortality of 7·8%. One hundred and fifty-nine cases were allowed to deliver vaginally, internal version and breech extraction being the procedure in 149 cases, with a foetal wastage of 57·7%.

However, if the membranes are intact, obstetrical procedures such as internal version and breech extraction can be performed with relative safety to the infant in certain circumstances.

In the above series 149 cases of transverse lie with intact membranes were analysed. Fifty-nine cases were treated by caesarean section with a foetal wastage of 6·9%. Internal version and breech extraction was performed in 82 cases with a foetal mortality of 11·0%.

As far as maternal morbidity is concerned, with intact membranes no alternation in maternal loss occurred, whether caesarean section or internal version and breech extraction was performed.

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TABLE VII. COMPARISON OF FOETAL MORTALITY AND SURVIVAL (BARAGWANATH SERIES)

	Vaginal delivery			*Caesarean section*		
	No.	*Survival*	*Mortality %*	*No.*	*Survival*	*Mortality %*
Wilson *et al.*[1]	25	18	28	61	56	8·2
Wood & Forster[2]	72		40	51		10·0
Posner *et al.*[6]			44			14·0
Cole & Delaney[11]	28	23	17·9	30	30	0
Garber & Ware[12]	15	5	66·7	13	12	7·7
Johnson[13]	75	43	42·7	16	12	25·0
Cockburn & Drake[8]	98		26·0	62		6·0
Eastman[14]	42	28	42·9	21	21	0
Baragwanath	249	115	53·8	161	130	19·4
(Corrected)			(40·0)			(7·5)