

CHANGING TRENDS IN THE MANAGEMENT OF ABNORMAL LABOUR

by

MANJU VERMA,* M.S.

RANJIT K. NARULA,** M.D.

and

KRISHNA MUKHERJEE,*** M.S.

The advent of better surgical techniques, facilities for safe analgesia and anaesthesia have greatly altered the management of abnormal labour in the last three decades.

The statistics of Western countries are available to show the changing trend in Obstetrics but very few such studies analysing these changing trends have been carried out in India.

Material and Methods

This retrospective study reviews the types of surgical procedures done while managing abnormal labour cases at Kamala Nehru Memorial Hospital, Allahabad from 1955 to 1980. The data of 1976 has not been included in this study.

The period of 25 years has been divided in 5 groups of 5 years each and the data analysed according to the procedures carried out i.e. Caesarean sections, forceps delivery, versions, destructive operations, Caesarean hystrectomies and repair of ruptured uterus.

Observations

Table I shows the breakup of the operative procedures performed in the management of these abnormal cases. The percentage of abnormal labour cases increased from 7.04% during the first 5 year period of 1955-1959 to 16.82% in the last 5 year period of 1975-1980.

The number of caesarean sections increased from an initial 409 to 2600 in the last 5 year period i.e. an increase from 33.80% to 64.97% of operative procedures in abnormal labour.

The corresponding percentage of forceps delivery was nearly constant i.e. 31.98% and 31.16% in the first and last 5 year periods respectively.

The corresponding percentage of version cases decreased from an initial 20.83% to 1.01% i.e. from 252 cases to 44 cases respectively.

Similarly, the corresponding percentage of destructive operations decreased from 8.93% to 0.75% i.e. from 108 cases to 30 cases.

The number of cases of caesarean hystrectomies, though showing a marginal increase from 50 to 70, remained nearly constant in terms of percentage of operative procedures in abnormal labour.

The incidence of repair following rupture of uterus showed a very minimal

*Lecturer.

**Ex Medical Superintendent.

***Professor.

M.L.N. Medical College and Kamala Nehru Memorial Hospital, Allahabad.

Accepted for publication on 7-6-82.

TABLE I
Incidence of Abnormal Labour and its Management

Management	1955-59	1960-64	1965-69	1970-74	1975-80
Caesarean Sections	409	528	1034	2240	2600
Forceps	387	509	779	765	1247
Versions	252	271	200	130	44
Destructive Operations	108	84	79	71	30
Caesarean Hysterectomy	50	48	63	75	70
Repair of Rupture Uterus	4	2	5	29	11
Total	1210	1442	2160	3310	4002

increase in the last decade of this study.

Caesarean Section

Table II shows the details of caesarean cases according to the type of operation and its relation to the ante-natal status of the patient i.e. booked or unbooked case.

The incidence of caesarean sections show a rising trend from 26.60/1000 deliveries in 1955-1959 to 131.54/1000 deliveries and 125.42/1000 deliveries in 1970-1974 and 1975-1980 respectively.

The maternal mortality rate has been fluctuating from 1.16% during 1970-1974 to a maximum of 4.36% during 1960-1964.

TABLE II
Details of Caesarean Sections

Period in years	Type of Oper.		Booked cases		Unbooked cases		Maternal Mort. Rate/100	Incidence/1000
	Classic.	LSCS	No.	%	No.	%		
1955-59	209	200	143	34.9	266	65.4	3.18	26.60
1960-64	20	499	123	23.3	405	76.7	4.36	33.26
1965-69	46	938	312	30.17	722	69.83	2.22	67.30
1970-74	11	2129	959	42.81	1281	57.19	1.16	131.54
1975-80	1	2599	1348	51.85	1252	48.15	3.8	125.42

During the first 5 year period 209 (51.1% of total caesarean section) classical caesarean sections were done as compared to only 1 case (0.04%) in the last 5 year period.

The number of lower segment caesarean sections increased from 200 (48.9%) to 2599 (99.6% of total Caesareans).

65.4% of the cases for caesarean sections were unbooked and came as emergency cases in the first 5 year period, whereas during the last 5 year period only 48.1% cases were unbooked.

Forceps Delivery

Table III shows the details of forceps delivery. The average incidence of forceps delivery increased from 23.4/1000 deliveries to 62.18/1000 deliveries during these 25 years, though in terms of operative procedure percentage, no change was seen.

High cavity forceps was rarely applied. Initially during the first 20 year period from 1955-1974, both low cavity forceps and mid cavity forceps were frequently

TABLE III
Details of Forceps

Period	Low Cavity	Mid Cavity	Booked		Unbooked		Mat. Mort. Rate/100	Incidence /1000
	No. of cases	No. of cases	No.	%	No.	%		
1955-59	233	164	118	30.49	269	69.5	1.62	23.4
1960-64	337	172*	145	28.4	364	71.5	2.16	31.34
1965-69	425	354	237	30.42	542	69.5	2.14	52.4
1970-74	391	374	399	52.16	366	47.8	1.46	36.84
1975-80	1964	183	686	55.0	561	44.9	—	62.18

* Includes 2 cases of high cavity forceps.

applied, with the use of the former type being slightly more than the latter. However, during 1975-80, the use of mid-cavity forceps decreased (14.68%) as compared to low cavity forceps (85.3%).

69.51% cases arrived in emergency as unbooked patients during 1955-59 whereas this figure decreased to 44.99% during the last 5 year period.

Maternal mortality percentage varied from 0 to 2.16% during these 25 years.

Versions

Table IV. The average incidence of version decreased from 12.52/1000 to 2.10/1000 from the first 5 year period to the last 5 year period. The percentage of unbooked cases showed only a marginal decrease from 98.81% to 84.0% from the first to the last 5 year period.

The maternal mortality rate also showed a decline from 4.42% to 0%.

Destructive Operations

The incidence decreased from an initial 6.36/1000 deliveries to 0.84/1000 deliveries.

Destructive operations were almost always done in unbooked cases coming late in labour (98.15%-100%).

Craniotomy was the most frequent operation followed by embryotomy.

Maternal mortality decreased from an initial 8.03% to 0%.

Caesarean Hysterectomy

The number of cases show a marginal increase from 50 to 70 during the last two and a half decade. However in terms of percentage there is a decrease. The incidence shows a marginal variation from 2.99/1000 to 3.23/1000 deliveries. Maternal mortality rate was high varying from 11.07% to 27.70%.

TABLE IV
Details of Version

Period	Version (Type)			Booked		Unbooked		Matern. Mort. Rate%	Incidence/ 1000
	Int. Pod.	Vers. Ext.		No.	%	No.	%		
1955-59	252	—	3	1.19	249	98.8	4.42	12.52	
1960-64	271	—	4	1.48	267	98.5	5.2	15.74	
1965-69	189	11	19	9.5	181	90.5	1.86	11.6	
1970-74	130	—	1	0.7	129	99.23	0.8	6.2	
1975-80	44	—	7	15.91	37	84.19	—	2.10	

TABLE V
Details of Destructive Operations

Period	Type of oper. Cronit.	Embryot.	Other	Booked		Unbooked		Maternal Mort.	Incidence/1000
				No.	%	No.	%		
1955-59	94	14	—	2	1.8	106	98.1	8.03	6.36
1960-64	79	7	1	1	1.19	83	98.8	11.0	5.48
1965-69	74	7	3	—	—	79	100.0	4.2	5.0
1970-74	64	9	2	1	1.4	70	98.5	5.26	3.18
1975-80	20	4	9	—	—	30	100.0	—	0.84

TABLE VI
Details of Caesarean Hysterectomies

Period in years	No. of cases	Booked		Unbooked		Maternal Mort. %	Incidence/1000
		No.	%	No.	%		
1955-59	50	—	—	50	100.0	20.92	2.99
1960-64	48	—	—	48	100.0	11.07	2.46
1965-69	63	—	—	63	100.0	17.01	3.44
1970-74	75	—	—	75	100.0	27.70	3.50
1975-80	70	2	2.86	68	97.14	11.48	3.23

Repair of Rupture Uterus

The incidence of repair showed a minimal decrease from 3.68/1000 deliveries to 2.89/1000 deliveries. The maternal mortality rate declined from 48.33% to 23.8%.

Discussion

The management of abnormal labour has undergone drastic changes in the last three decades. Certain procedures which

were frequently done during the earlier part of this study, have become obsolete or are being done rarely in the later part of this study.

The average incidence of caesarean section increased from 26.60/1000 deliveries to 121.54/1000 deliveries. Similar increasing trend has been reported by Lewis (1964) who observed an increase from 3.1 to 4.4%. Gun *et al* (1981) have also reported an increase from 1.9% to 13.2%.

This increase in caesarean section rate

TABLE VII
Details of Repair of Rupture Uterus

Period in years	No. of cases		Booked		Unbooked		Maternal Mort. %	Incidence/1000
	Rupt.	Repair	No.	%	No.	%		
1955-59	53	4	—	—	53	100.0	37.0	3.68
1960-64	61	2	—	—	61	100.0	48.33	3.43
1965-69	45	5	—	—	45	100.0	41.93	3.35
1970-74	64	29	—	—	64	100.0	24.04	5.5
1975-80	63	11	2	3.17	61	96.83	23.8	2.89

is due to the comparative safety of this operation because of improved anaesthetic facilities, asepsis and better operative techniques. Another reason for the increase in incidence may be the large number of elective cases done in the latter half of this study. A tremendous increase in the number of deliveries may have also contributed to this increase. A striking feature is the marked decrease of classical caesarean sections during the last 10 years as also reported by Goswami *et al* (1981). Donald (1969) also observed a similar trend and stated that "Non formation of the lower segment is the only justifiable indication for classical caesarean section." The high incidence of rupture uterus following this operation has led to its elimination.

The incidence of forceps delivery at our hospital increased from an initial 23.4/1000 to 62.18/1000 deliveries. Lewis (1964) reported a decrease from 12.7% to 8.6% giving no substantial explanation for the same.

The use of mid cavity forceps decreased slowly till 1975. However, during 1975-80 its use decreased sharply (Table III). This decrease may be due to an increased preference for caesarean sections.

The incidence of version gradually decreased from 12.52/1000 to 2.16/1000 deliveries. Only 11 cases of external cephalic version have been done between 1955-69. The decrease in version rate is due to the increased preference for caesarean sections, which reduce the perinatal mortality considerably. Failure to control haemorrhage following version is one of the important reasons for its infrequent use. The incidence of podalic version varies greatly even in similar circumstances i.e. 28.5% (Bhose, 1961); 3.3% (Palanichamy, 1976) and 1.66% (Bhatt and Trivedi, 1964).

Destructive operations i.e. craniotomy

(63.7%) and embryotomy (11.02%) have shown a declining trend from 6.36/1000 to 0.84/1000 deliveries. This declining incidence is a reflection of the overall increase in the number of booked cases coming to the hospital. It was done in 4 booked cases only during 25 years. Roychowdhary and Sikdar (1981) have not found a declining trend in their study, though the operations commonly performed were the same. Dewhurst (1976) observed that these operations are not done except in cases with foetal abnormalities or rarely in patients who pass into obstructed labour unrecognised.

The incidence of caesarean hysterectomies did not vary significantly (2.46-3.50/1000 deliveries). Barclay (1970) reported the incidence to be 25.3%. Sikdar and Mondal (1980) reported an incidence of 2/1000 which is similar to our observations. The higher incidence in Barclay's series may be due to different conditions and higher mortality rate in obstructed labour in India. The maternal mortality rate was high (11.01-27.70%) in obstructed labour. A similar mortality rate has been reported by Palanichamy (1976).

The rate of repair of ruptured uterus increased from 6.92% of total cases of rupture uterus to 31.5% of total cases. Sikdar and Mondal (1980) reported a repair rate of 20%. The incidence did not show any significant increase. The maternal mortality rate has remained high throughout the study period (23.8% to 48.33%).

References

1. Barclay, D. L.: *Obstet. Gynec.* 35: 120, 1970.
2. Bhatt, R. V. and Trivedi, R. R.: *J. Obstet. Gynaec. India.* 14: 461, 1964.
3. Bhose, L.: *Brit. Med. J.* 2: 1469, -961.
4. Dewhurst, C. J.: *Integrated Obstet. Gynec. for Post Graduates*, Blackwell Scientific Publ. London, 2nd Ed. p. 40, 1976.

5. Donald, I.: Practical Obst. Problems, Lloyd Luke Ltd. 4th Ed. p. 754, 1969.
6. Goswami, B., Das, A., Chowdhary, S. S., Ghosh, D. and Bhattacharjee, S.: J. Obstet. Gynaec. India, 31: 292, 1981.
7. Gun, K. M., Datta, D. C. and Nandi, A. K.: J. Obstet. Gynaec. India, 31: 58, 1981.
8. Lewis, T. L. T.: Practical Problems in Obstet. Gynec. Edward Arnold Ltd. London, 4th Ed. p. 38, 1964.
9. Palanichamy, G.: J. Obstet. Gynaec. India, 27: 438, 1976.
10. Roychowdhary, N. N. and Sikdar, K.: J. Obstet. Gynaec. India, 31: 73, 1981.
11. Sikdar, K. and Mandal, G. S.: J. Obstet. Gynaec. India, 30: 99, 1980.