INDICATION AND OUTCOME OF FORCEPS DELIVERIES IN A TEACHING HOSPITAL

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Of 2811 deliveries between 1st January 1992 to 31st December 1992 in Gynae A Unit, Postgraduate Medical Institute, Lady Reading Hospital, Peshawar, forceps deliveries were 277 (incidence -9.85%). The incidence of failed forceps was 2.16%. The most common group of indications were abnormalities of 2nd stage (53.09%). There were 31 still births and 12 neonatal deaths. The total perinatal deaths were 43. The commonest cause of still birth was birth asphyxia. Most of neonatal deaths were due to prematurity. The perinatal deaths were in cases with pre-existing maternal, obstetrical and fetal complications; 60 of our patients had one or other type of complication. The maternal mortality rate was 1.44^{c}/c, forceps not being the cause of these deaths. We have lost 3 patients due to postpartum haemorrhage and one due to eclampsia.

The study also showed that maternal morbidity rate was high. Two of our patients had major complications, i.e. uterine rupture and vesicovaginal fistula. The conclusion is that forceps are not free of risk. They are valuable instruments in expert hands. The risks associated with forceps must be balanced against the potentially more serious sequelae associated with caesarean sections.

INTRODUCTION

Forceps have been a valuable aids in obstetrics for centuries, although controversy may arise regarding morbidity and mortality associated with its use.

It has been criticized as being potentially traumatic to the ferns with increasing perinatal mortality, cerebral palsy and low intelligent quotient. These findings are not confirmed by others.

The potential for serious damage has been magnified because forceps increased in popularity as the instrument for rotation and traction from higher stations, which may be traumatic both to mother and fetus. Complications of forceps may be due to failure to detect disproportion or position of presenting part.

The use of forceps in modem obstetrics is undergoing extensive review and critique by the medical community, legal profession and consumer public.

Forceps are not dangerous when judiciously used. Outlet forceps are a safe, acceptable and expeditious method of delivery with no serious long term effects on the neonate, especially in pregnancies associated with cardiac diseases, lung diseases, maternal exhaustion and fetal distress.

The present study which was undertaken to evaluate maternal and fetal outcome in a teaching hospital shows that conservative use of forceps was not associated with increased neonatal morbidity and was associated with acceptable maternal morbidity.

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MATERIALS AND METHODS

One-year prospective study was conducted from 1st Jan. 1992 to 31st Dec. 1992 in the Department of Obstetrics and Gynaecology Unit A, Postgraduate Medical Institute, Lady Reading Hospital, Peshawar.

Age, parity, socio-economic status, education, previous obstetric history, stage of labour at admission & station of presenting part were recorded. Proper record of indication and mode of delivery was also maintained.

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The causes of stillbirths were analysed on clinical grounds only. In our society most of the parent's refuse to have postmortem examination of their babies. We therefore had to rely on clinical data.

Babies were followed till the 7th postnatal day to find the mortality and early neonatal morbidity. As we discharged the patient of forceps delivery usually within 48 hours if the baby and mother had no problem, so they were called for follow up after 1 week.

RESULTS

Total deliveries during 1992 were 2811. The number of forceps deliveries were 277(9.85%).

Distribution of the patients according to the gravity of the mothers and their percentages are shown in Table-1.

TABLE-1: DISTRIBUTION ACCORDING TO THE GRAVIDY OF THE PATIENT.

Gravidy	Number	Percentage
Primigravida	203	73.28
Multigravida	46	16.60
Grand multigravida	28	10.12
Total	277	100

The rate of application was highest in priini-gravida, 73.28%. The 2nd common group was multigravida. The incidence of forceps was lowest in grand multigravida, 10.12%. Majority of the patients were admitted in emergency. In this study 90.25% of cases were emergency cases, while booked cases accounted for only 9.75%. Maximum number of patients were in the age group of 15 to 25 years i.e. 149(53.80%).

In this study 169 patients were front Rural area. The number of patients from Urban area were 108(38.90%).

Majority of the patients belonged to poor class, that is with income of less than Rs. 3000 per month.

Majority of the couples were illiterate 130(46.93%); the husbands were literate in 115(41.51 %) and patients in 11.56%.

Height of the majority of patients were between 151-160 cm (55.39%).

Majority of the patients had spontaneous onset of labour, 263(94.99%). Fourteen patients (5.05%) required induction in 35 cases (12.63%). The labour was augmented with syntocinon and artificial rupture of membranes.

The commonest indication was prolonged second stage of labour, 85(30.7%); indefinite 2nd stage of labour, 62(22.38%) was the next common group, followed by fetal distress, 39(14.07%).

Outlet forceps were the commonest type of forceps applied, 259(93.05%); mid country forceps were used only in 18 patients, (6.50%); Kiel land were not applied during the study period.

Majority of the patients had forceps delivery only with local infiltration; pudendal block was used only in 8 patients. Three patients had trial of labour under G.A.

In 15 patients vacuum was used in addition to the forceps. Three patients had caesarean section.

Manual rotation of head was carried out in one case.

In 252(90.98%) cases, presentation was vertex. In 7.58% cases, the forceps were applied to after coming head of breach (2%). Face presentation was found in 4 cases (1.49%).

TABLE-2: DISTRIBUTION ACCORDING TO CAUSE OF EARLY NEONATAL MORBIDITY

Early Neonatal Morbidity	No	%
1. Cranio-facial skin marking	18	6.5
2. Cord infection	16	6.4
3. Pneumonia	6	2.16
4. Septicemia	5	1.80
5. Respiratory distress syndrome	2	0.72
6. Cephalhaematoma	1	0.36
7. Subconjunctival Haemorrhage	1	0.36
8. Erbs Palsy	1	0.36
Total	50	18.05

TABLE 3 PROBABLE CAUSES OF STILL BIRTH

	No	%age
1. Birth asphyxia	8	2.88
2. After coming head of breach	6	2.16
3. Prematurity	3	1.08
4. Difficult forceps	3	1.08
5. Eclampsia	3	1.08
6. Intra Uterine infection	1	0.36
7. Placenta previa	1	0.36
8. Abruptio placenta with cardiac disease in mother	1	0.36
9. Cord around Neck	1	0.36
10. Cord prolapse	1	0.36
11. Congenital malformation	1	0.36
12. Unknown	1	0.36
Total	31	11.16

TABLE-4: PROBABLE CAUSES OF NEONATAL DEATH.

Causes	No	%age
l. Prematurity	5	41.68
2. Birth asphyxia	3	25.00
3. Respiratory distress syndrome	2	16.66
4. Congenital malformation	1	8.33
5. Convulsion	1	8.33
Total	12	100

DISCUSSION

In this study we have found a forceps delivery' rate of 9.85%. The incidence of forceps varies between different communities. In Ireland. France, Wales and England the rate is 8%, 8%, 7.3% and 13.3 respectively [6].

Only in a study carried out in England the rate was higher than ours. The incidence of forceps in Khyber Teaching Hospital is 4.03% [1]. The incidence of mid forceps in our study is 0.69%. Bottom [3] and Dierker et al [7] give rate of mid forceps as 4% and
0.8% respectively. The incidence of mid forceps deliveries was highest in primigravida (73.3%). The incidence of primigravida in the study by Dierker et al[7] was 80%. The common indications in our patients were prolonged second stage (30.71%), indefinite second stage (22.38%) and fetal distress (14.07%). In the study by Dierker et al [7], fetal distress was the immediate indication in 37% of cases and dystocia was the indication in 38%. Prolonged second stage and indefinite second stage were also the common indications in the study conducted by Akhtar [1].

The mid forceps rate in our unit was 0.64%. Kadar[8] is of the opinion that over the past 20 years or so the rate of mid forceps deliveries appears to have doubled surprisingly enough, probably because of the more frequent use of epidural anaesthesia. Epidural anaesthesia was not given to our patients and this is not our routine because of the lack of skilled anesthetist.

No Kielland forceps were used during the year 1992 in our unit. However, these were used in the past. Chow et al [4] has given 96.7% rate for Kielland forceps.

The rate of failed forceps in our patients was 2.16%. Sirgos et al [9] has given 0.7% failure rate which is much less than ours.

MATERNAL MORBIDITY

Sixty of our patients (23.42%) had one or other type of complication. The incidence of complications in the study by Akhter [1] was 28.57%; the most common group of complication were soft tissue injuries in the form of cervical tear (3.97%), 3rd degree perineal tears (1.08%), 2nd degree perineal tears (1.08%), 1st degree perineal tears & vaginal lacerations in 2.16% cases. Dierker et al [7] had given a rate of 45% perineal laceration. One of our patient had injury to the lower segment of uterus due to application of mid forceps. Another patient had vesico-vaginal fistula.

MATERNAL MORTALITY

There were 4 maternal deaths, not directly due to forceps - details are given in discussion.

There were four maternal deaths in this study - the cause was not instrumental delivery. Three patients died due to postpartum haemorrhage and the forth due to eclampsia.

One patient was diabetic and had a macrocosmic baby (5 kg). She had failed trial of forceps. During caeserean section the tear extended into the broad ligament. She had subtotal hysterectomy. She died due to blood loss. The 2nd patient had an abruption of placenta. She had PPH due to uterine atony and was admitted with compromised blood volume. Mode of delivery was outlet forceps. She died due to haemorrhage. The 3rd patient had successful forceps deliver)'. She had PPH due to uterine atony and died during hysterectomy. The last patient had eclamptic fits. The probable cause of her death was pulmonary oedema. The first three patients could have been saved with careful management and adequate blood transfusion well in time.

PERINATAL OUT COME

Perinatal mortality rate was 155/1000 births in our series. We have lost 43 babies out of 277. Among them 31 were still births and 12 were neonatal deaths. 66.07 %(183) babies had apgar scores between 7-10 at one minute, while 22.74%(63) had apgar scores below 7 at one minute. Dierker et al [7] had given 18% incidence of low apgar, i.e., less than 7 at one minute. The largest number of stillbirths were due to birth asphyxia - 2.88%(8), whereas the largest number of neonatal deaths were due to prematurity.

Highest loss of babies was found in lower socio-economic class - 7.03% compared to 10.60% in middle class. Bride et al concluded from their study that family background variables were the most powerful predictor of intellectual ability in children. The complications in our babies were due to indications for forceps rather than

forceps application. During the past 25 years maternal and neonatal mortality rates have declined. Attention has been directed to improve infant morbidity. High and difficult forceps have generally been abandoned in favor of caesarean section.

RECOMMENDATIONS

0. Antenatal services and literacy rate should be improved.
1. All primigravidas should have hospital delivery.
2. LHV and TBA should manage the normal cases and should refer all the complicated cases to the hospital well in time.
3. If there is need to apply forceps, all the criteria must be fulfilled. They must be applied by an experienced obstetrician. The forceps should not be tried at high station or to overcome disproportion.
4. Difficult forceps should be abandoned in favor of caesarean section.

In conclusion it is mandatory' tor obstetricians and pediatricians to review perinatal deaths and to make note of avoidable factors so that steps can be taken to decrease the perinatal mortality rate.

REFERENCES

1. Akhtar S: "Vacuum extraction verses forceps delivery: maternal and fetal morbidity". Short report. Journal of Medical Sciences, Khyber Medical College, Peshawar, Pakistan, December, 1992; 2:421-27.
2. Berhus MD, Romamerty O, Cannor PS, Brown K, Hayashi RH. Cohort study of silastic obstetric vacuum cup deliveries. Safety of the instrument. Obstetrics and Gynaecology, 1985 Oct; 66(4): 503-9.
3. Bottom SF, Hirsch VJ, Sohol RJ. Medical Management of arrest disorders of labour. A current overview Am. J. Obstet and Gynaecol 1987 April; 156(4): 935-39.
4. Chow SL, Johnson CM, Anderson TD, Hughes JH. Rotational delivery with Kielland forceps. Medical J. Aust., 1987 Jun 15; 146(12): 616-9.
5. Danforth DN. Dystocia due to abnormal feto- pelvic relations. Obstetric and Gynaecology 4th Edition Ch. 34, Harper and Row Publisher Philadelphia, 1980; 695-716.
6. Giwa-Osagie OF, Ogunyemi D & Ogedegbe BK. Indication and outcome of forceps deliveries in Lagos: a study of 553 cases. Asia Oceania J Obstet Gynaecol, 1987 March; 13(1):59-63.
7. Dierker LJ Jr, Rosen MG, Thompson K, Deb- anne S & Linn P. The mid forceps: maternal and neonatal outcome. Am J Obstet Gynaecol, 1985 May 15; 152(2): 176-83.
8. Kadar N. Do mid forceps deliveries really impair subsequent intelligence quotient scores (letter). Am J Obstet Gynaecol, 1985 Sept; 15-153(2): 2333-35.
9. Svigos JM, Cave DG, Vignewaran R, Resell A & Christiansen J. Silastic cup vacuum extractor or forceps: a comparative study. Asia Oceania J Obstet Gynaecol, 1990 Dec;16(4):323-37.