

Maternal and Foetal Morbidity Associated with Caesarean Section

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SUMMARY

264 cases of Caesarean sections were reviewed for the period January 1, 1978 to December 31, 1978 in the U.T.H. An analysis was made with particular emphasis on Maternal and foetal morbidity and mortality. The need of early intervention and a more liberal use of C.S. is emphasised in reducing foetal morbidity and mortality.

INTRODUCTION

The obstetrician has today become increasingly aware that prolonged labour, difficult delivery and malpresentations including breech are potentially traumatic situations which can be largely obviated by the use of caesarean section.

It is easier for the paediatrician to salvage babies, who have not undergone the stress of a difficult vaginal delivery. C.S. offers such babies the optimal chance for survival at a higher potential especially in Zambia, where only 40% mothers are booked cases attending antenatal clinic at U.T.H. and 60% are unbooked cases (Hickey & Kasonde 1977).

The present study emphasises the need of a more liberal use of C.S. to lessen foetal morbidity rates.

MATERIAL

The cases were collected from the labour room of University Teaching Hospital, Lusaka. During the period from January 1 to December 31, 1978 a total

of 264 patients undergoing C.S. met the criteria for entrance into the study. The antepartum, intrapartum, postpartum and neonatal periods were analysed with particular attention to perinatal and maternal complications.

In determining maternal morbidity, care was taken to include all significant complications, including febrile morbidity.

In assigning neonatal morbidity, the chief criterion was a five minute apgar score of less than 7, which was assessed by the attending anaesthetist.

RESULTS

Table 1 shows that there were 206 cases of primary C.S. and 58 cases of repeat C.S. Although there has been no significant alteration in the overall C.S. rate of 4.7% since 1976 (O'Dowd and Chikamata, 1978), the higher rate of primary C.S. (78%) reflects a reluctance on the part of the obstetrician to perform difficult vaginal deliveries. Again this may reflect an increasing use of abdominal delivery for foetal distress and malpresentations including breech presentation.

TABLE I:
CAESAREAN SECTION

Primary	Repeat	Total
206	58	264

Table II shows the various indications of caesarean section. Approximately 1/3rd of primary C.S.

have been done for C.P.D., unprogressive labour, failed vacuum/forceps and uterine dystocia. In the past few years, the diagnosis of "unprogressive labour" has been employed with increasing frequency to identify a heterogenous group of patients whose progress in labour is unsatisfactory due to a variety of factors, including a small or poorly shaped pelvis, a large infant, inadequate uterine contractions and deflexion of the fetal head. Perhaps this new obstetric diagnosis was inspired by the inclusion of the partogram in our labour records.

Foetal distress is another common indication for C.S. comparable to previous years, though our basis of diagnosis still depends on clinical signs of pronounced bradycardia and meconium stained liquor.

**TABLE II:
INDICATIONS FOR CAESAREAN SECTION**

	Number
Repeat Section	58
Cephalo pelvic disproportion	39
Unprogressive Labour	33
Malpresentation	18
Breech	12
PET/Eclampsia	22
Foetal distress	25
Placenta praevia	10
Abruptio Placenta	6
Cord Prolapse/Presentation	26
Failed Forceps/Vacuum	7
Uterine dystocia	3
Miscellaneous	5
Total	264

Vaginal operative deliveries in the face of malpresentations are being replaced by C.S. In fact the operation of internal podalic version with breech extraction is almost exclusively reserved for an occasional second twin. Severe pre-eclampsia, eclampsia, placenta previa, abruptio placenta, Cord prolapse and bad obstetric history have included themselves in the list of indications. A review of literature (Jones et al, 1953) shows that C.S. rate for these indications was relatively low in 1948 to 1953, a time when forceful vaginal deliveries were more acceptable and the interest in the fetus was of lesser concern. By 1965 these philosophies were no longer attractive and by 1974 they had been abandoned (Hibbard, 1976). The Obstetrician of today has become more interested in the quality of the product they deliver.

It is not our invariable policy to perform C.S. in a woman with one or even 2 previous caesarean sections. This is an unusual and peculiar policy totally in contrast to the Western figures who follow the maxim "once a C.S. — always a C.S." This is due

to the fact that large families are preferred in Zambia, and unless an absolute indication exists, the patient will not submit herself for C.S. Another factor may be the mental make up, physical endurance and stamina in comparison to their Western counterpart who are more apprehensive and who prefer smaller families and do not want to take an unnecessary risk.

MATERNAL MORBIDITY

In order to assess maternal morbidity the factors shown in Tables III, IV and V were taken into account — namely; whether the patients were in labour or not, number of patients with or without rupture of membranes, total number of hours and number of vaginal examinations versus temperature and duration of hospital stay.

There were 201 cases with rupture of membranes and 63 cases with intact membranes before going for C.S. (Table III). It was noted that 45.2% of the patients with ruptured membranes had to stay for 11 or more days in the hospital as compared to those without rupture of membranes (Table V). Although it is always presumed that there is an increase in morbidity if the number of vaginal examinations are repeated we found that approximately 50% of the patients had a rise of temperature within the first 4–6 days, irrespective of whether they had one or three vaginal examinations before C.S. (Table IV). The patients who had more than 4 vaginal examinations showed a 100% morbidity. This leads us to presume that morbidity as such cannot be prevented only by lessening the number of vaginal examinations but also by making an overhaul assessment of the patient when she first comes in labour. Hence one has to assess the duration of labour, whether membranes are intact or ruptured and their duration, presence of existing infection, temperature and haemoglobin level.

**TABLE III:
CLINICAL PROFILE OF PATIENTS**

Parameter	No. of Patients
Without ROM	63
With ROM	201
Duration of Labour in Hours	
Not in Labour	63
6 hours	33
6 – 10	45
11 – 15	34
16 – 20	40
21 – 24	19
24 hours (+)	20

ROM = Rupture of membranes

TABLE IV:

VAGINAL EXAMINATION VERSUS TEMPERATURE

Number of V.E.	Number of Patients	Number of Patients with .			
		Normal Temp.	Temp. of 100.4°C or more (Percentage in brackets)		
			1 - 3 Days	4 - 6 Days	7 - 10 Days
Not done	29	7(24.1)	6(20.7)	15(51.7)	1(3.4)
1	83	13(15.7)	17(20.5)	47(56.6)	6(7.2)
2	106	10(9.4)	24(22.6)	57(53.8)	15(14.2)
3	41	7(17.1)	13(31.7)	17(41.5)	4(9.7)
4 or more	5			5(100)	

TABLE V:

HOSPITAL STAY (POST OPERATIVE DAYS)

C/S	Number of Patients	Duration of Stay in Days (Percentage in brackets)		
		7 - 10	11 - 14	7 - 15
Emergency	201	110(54.7)	56(27.8)	35(17.4)
Elective	63	43(68.2)	11(17.5)	9(14.3)

While considering maternal morbidity another parameter which should not be missed is the socio-economic status of the patient. It may be seen from Tables VI and VII that about 57.9% of our patients belong to the age group below 25 years and 62.5% of the patients had no less than 2 deliveries.. On a comparable basis with western figures one may conclude that the reason for a higher maternal morbidity is presumably a lower socio-economic status.

**TABLE VI:
AGE GROUP**

Years	Number
15	13
16 - 20	62
21 - 25	78
26 - 30	47
31 - 35	41
36 - 40	19
41 years and above	4
Total	264

TABLE VII:

Parity	No. of Patients
Nullipara	56
1	51
2	58
3	28
4	17
5	19
6	20
7	7
8 and above	8

Again most morbidity was due to genital tract infection, wound infection and urinary tract infection (Table VIII). Due to various reasons the investigation could not be done in all of the patients. Some of the patients had more than one operative complications. Klebsiella, staphylococcus aureus and coliform bacteria were the most commonly found organisms.

TABLE VIII:

POST OPERATIVE
COMPLICATIONS

		Number
Genital Tract Infection		143
Urinary Tract Infection		163
Wound Infection		135
Bacteria	High Vaginal Vaginal (N=143)	Urine Culture Culture (N=163)
No growth	50	94
Klebsiella	27	28
Staphylococcus	19	4
Coliform	19	21
Scanty growth	14	5
Mixed growth	14	11

PERINATAL MORBIDITY AND MORTALITY

In a study of this kind, it is difficult to state how much effect sedation, length of labour, fetal distress, prematurity and other complications, play in perinatal morbidity.

The 5 minute apgar score provides a rough indication for perinatal morbidity. In cases showing foetal distress with an apgar score of 7 and below, the labour was usually over 15 hours. (Table IX).

There were 27 babies between the birth weight 1000 - 2500gm (Table X). There were six stillbirths giving a perinatal mortality of 2.3% among infants born by sections. This is comparable with the figures given by Hibbard (1976). This is also comparable to the perinatal mortality rate of vaginal delivery. Perhaps this observation should remind us that a great deal of the improvement in obstetric outcome is due to the modern attitude of early interference and good neonatal care.

COMMENT

C.S. has changed from an operation of necessity to an operation of choice, with better maternal

TABLE IX
APGAR SCORE VERSUS DURATION
OF LABOUR

Apgar Score	Duration of Labour (in hours)	Number of Babies	Percentage
8 - 10	up to 6 hours	96	36.4
6 - 7	up to 15 hours	79	29.9
4 - 5	up to 20 hours	40	15.1
1 - 3	up to 24 hours or more	43	16.3
Still Births		6	2.3

TABLE X:
BABY'S BIRTHWEIGHT

GM	Number
Under 1000gms	1
1100 - 2000	8
2100 - 2500	18
2600 - 3000	41
3100 - 3500	58
3600 - 4000	30
4100 +	4
Not Weighed	104
Total	264

results and certainly with better fetal results. An alert obstetrician who is looking for complications, but hopefully not causing them, can use present day obstetric techniques to help assure for the fetus a significantly safer journey through the antepartum and intrapartum periods, can prevent the fetus from going stress to distress.

At one time the onus was on the obstetrician to document absolute need for abdominal intervention, and a low C.S. rate was equated with obstetric expertise. In these days the focus is on a bad outcome, and since C.S. with appropriate anaesthesia and support systems is so safe, the maxim "better safe than sorry" has taken a new meaning.

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