

# MORBIDITY FOLLOWING CAESAREAN SECTION

by

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## SUMMARY

Incidence of morbidity following caesarean section was found in 300 out of 800 cases studied in (37.50%). High incidence of morbidity were associated in the age group of 15 to 25 years (70%), para-one (68%), low socio-economic group (86.60%), lack of ante-natal care (52.6%) and emergency caesarean section (73.3%), prolonged labour, with rupture of membranes, multiple internal examination, unsuccessful prior efforts at vaginal delivery and haemorrhage. Of all the morbidity condition abdominal wound infection (25%) topped the list.

### Introduction

The concept of undertaking caesarean section has changed in modern obstetrics. The indications have been greatly broadened in recent years. This has become possible due to revolutionary improvement in overall surgical technique as well as better understanding of the antenatal and intranatal fetal wellbeing. Thus caesarean section has changed from an operation of dire necessity to one of choice with better maternal results and fetal outcome (Pitkin 1978). But the operation is not without risk in terms of maternal morbidity and cost for prolonged hospital stay.

This present study was undertaken to review caesarean section complications

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in the immediate post-operative period and epidemiological and obstetric factors which may be associated with such morbidity.

### Material and Methods

A prospective study of 800 cases (random) of caesarean section at Eden Hospital, Medical College, Calcutta during the period from September, 1980 to December, 1982 is presented. All the cases were observed from the date of admission to discharge. The association of the following factors with post-operative morbidity were critically evaluated:

(1) Epidemiological factors: Age, parity, socio-economic class (Income/diet).

(2) Antenatal factors: History of antenatal care, anaemia, hypertensive disorders, primary or repeat caesarean section.

(3) Intranatal factors: Gestation period, nature of caesarean section (Elective or emergency), history of premature rupture of membranes, repeated vaginal examination, prolonged labour, use of antibiotics and history of vaginal manipulations/Forceps application.

(4) Post-operative period: Morbidity conditions—pyrexia, wound infection (all grades), endometritis, peritonitis and ileus, haemorrhage, urinary tract infection and post-operative hospital stay.

TABLE I  
Incidence of Morbidity Following Caesarean Section

No. of cases	No. of cases with morbidity	Incidence
800	300	37.50%

### Results and Analysis

Epidemiological and obstetric factors analysed in the 300 cases with morbidity:

TABLE II  
Relationship of Age and Parity with Morbidity

Age group	Morbidity	Incidence
15 to 25 yrs.	210	70%
26 to 35 yrs.	90	30%
<b>Parity</b>		
Para—1	204	68%
Para—2	72	24%
Para—3+	24	8%

On combining the age and parity, highest incidence of morbidity was found amongst para 1 belonging to the age group of 15 to 25 years.

On combining the first two groups it was observed that majority of the cases of morbidity belong to low socio-economic group with poor intake of protein during antenatal period.

TABLE III  
Socio-economic Group (Income/Diet) with Morbidity

Monthly income and diet groups	Morbidity	Incidence
Rs. 100 to Rs. 250, occasional protein intake	160	53.3%
Rs. 251 to Rs. 500, low protein intake	100	33.3%
Rs. 501 and above adequate diet	40	13.4%

TABLE IV  
Antenatal Factors with Morbidity

Factors	Morbidity	Incidence
No antenatal care		
Anaemia (Hb < 10 gm%)	158	52.6%
Hypertensive disorders/P.I.H.	140	46.5%
Gestation period (37 to 40 wks.)	60	20%
	240	80%

TABLE V  
Nature of Caesarean Section With Morbidity

Nature of C.S. (All L.S.C.S.)	Morbidity	Incidence
Elective	80	26.7%
Emergency	220	73.3%

Majority of the cases of morbidity had emergency operation as compared to planned caesarean section.

Post-operative morbidity after Caesarean Section is shown in Table VI. Of all the morbidity conditions abdominal wound infection and pyrexia topped the list—25 and 30 per cent respectively. In these groups majority of cases gave history of premature rupture of membranes and repeated vaginal examination. All the cases had prophylactic antibiotics (Ampicillin) to prevent chorioamnionitis. There were 80 cases (10%) of endometri-

TABLE VI  
*Relationship of Post-Operative Morbidity (Prevalence of Complications) With Intranatal Obstetric Factors*

Morbidity	Cases with incidence	Intranatal Factors		
		Prem/rupture Memb.	Multiple Int. Exam.	Obst. manipulation/ Forceps
Pyrexia (t.—100.4 F or higher)	240 (30%)	220	192	40
Wound infection	200 (25%)	200	180	52
(a) Treated by dressing, antibiotics	120 (15%)			
(b) Treated by dressing antibiotics and Sec. suture	80 (10%)			
Burst abdomen	3 (0.37%)	3	3	3
Endometritis	80 (10%)	80	60	52
Peritonitis, Ileus/ Endo-toxic shock	76 (9.5%)	60	20	4
Haemorrhage (Primary and Secondary)	160 (20%)	52	20	4
Broad ligament haematoma	10 (1.25%)	8	4	—
Urinary tract infection	34 (4.25%)	12	4	—
Vesico-vaginal fistula	1 (0.13%)	1	1	1
Anaesthetic complications	3 (0.37%)	—	—	—

tis where all the cases gave history of premature rupture of membrans, history of internal examination in 60 cases and in 52 cases there was history of attempt of vaginal manipulation and/or forceps application to deliver the baby. Haemorrhage—primary due to surgery or secondary post-partum bleeding occurred in 160 cases (20%). All these cases received blood transfusions. In 34 cases (4.25%) there was urinary tract infection as proved by routine urinalysis and urine culture. Amongst the cases of severe form of morbidity there were 80 cases of abdominal wound infection requiring secondary suture, 20 cases of endometritis with pyometra which required drainage of the pus; 10 cases of broad ligament haematoma. Relaparotomy in one of these cases

on 15th day due to persistent ill health, temperature and broad ligament haematoma revealed a large pus pocket in the right paracolic gutter which was drained. Seventy-six cases developed moderate to severe degree of peritonitis including 4 cases of peritonitis, ileus and endotoxemic shock. In 3 cases post-operative morbidity was directly related to the anaes-

TABLE VII  
*Hospital Stay Following Caesarean Section: 300 Cases of Morbidity Out of 800 Cases Studied*

Hospital stay in days	No. of cases	Incidence
Within 7 to 10 days	60	20%
11 to 20 days	100	33.3%
21 to 30 days	80	26.7%
Over 1 month	60	20%

thetia due to the development of 'Mendelson's Syndrome' following general anaesthesia. Regional anaesthesia (lumbar epidural analgesia) were also undertaken in quite a good number of cases.

Majority of the cases of morbidity in terms of hospital stay: 240 cases (80%) the post-operative hospital stay was over 10 days. In 60 cases (20%) the patients stayed over one month. In 1 case of broad ligament haematoma with severe infection the patient had to stay 70 days following caesarean section.

#### Discussion

Morbidity following caesarean section is variable due to great variability of indications and associated factors. Danforth (1982) observed that even in the most favourable cases there are variable factors which influence morbidity. He mentioned about spill of amniotic fluid and blood into peritoneal cavity, ease or difficulty in delivering the baby, amount of uterine bleeding and patient's response to anaesthesia. Hunter (1978) mentioned that 33% had morbidity following caesarean section. This was significant in 12% cases and very serious in half the cases. In the present study morbidity was found in 300 of the 800 cases assessed. This gives an incidence of 37.50% (Table I).

Factors contributing heavily to post-operative complications were prolonged rupture of membranes, unsuccessful prior efforts at vaginal delivery, haemorrhage, uterine rupture and other obstetric factors. Gibbs *et al* (1980) highlighted infection as the major caesarean section morbidity. He mentioned factors significantly associated with infection included maternal age, gestational age, primary caesarean section, labour, rupture of membranes, multiple vaginal examination, surgical technique and skill and blood

transfusion. Donald (1962) mentioned that many of the cases who have been in labour for some while at the time of caesarean section are infected. In spite of the modern technique and use of antibiotics about a quarter of these cases are puerperally morbid. In this study, age group of 15 to 25 years, para-one (Primary C.S.), belonging to low socio-economic group were found to be associated with highest incidence of morbidity (Table II).

Gibbs (1980) mentioned intrauterine infection (Chorio-amnionitis) or post-partum endometritis or both develop in 39.6%, urinary or pulmonary infection develop in 7.9% and abdominal wound infection in 4.5%. Pitkin (1980) emphasised long labour, ruptured membrane and numerous vaginal examination—all predispose to the development of endometritis—a major cause of caesarean section morbidity. Das (1965) mentioned 32 cases (21.6%) of abdominal wound infection, 12 cases (8.2%) of peritonitis in a series of 148 cases of caesarean section. In this study there were 200 cases (25%) of abdominal wound infection, 80 cases (10%) of endometritis, 34 cases (4.25%) of urinary tract infection and 76 cases (9.5%) of frank peritonitis (Table VI). Macleod and Howkins (1964) emphasised that antibiotics must not be regarded as a substitute for the strict discipline of asepsis. Should clinical condition suggest endometritis or abdominal wound infection after caesarean section a high vaginal and cervical swab for culture and sensitivity test should be carried out and proper antibiotic started to reduce such morbidity. The technical skill of the Surgeon performing the operation is also a major contributing factor for the morbidity. Danforth (1982) mentioned that longer the operative procedure the greater

the likelihood of post-operative complications. Victor Bonney (1952) mentioned in his classic 'Gynaecological Surgery' "An operation rapidly yet correctly performed has many advantages over one technically as correct, yet laboriously and tediously accomplished". Finally, in the measure of morbidity in terms of hospital stay majority of the cases stayed over 10 days with maximum stay as 70 days in one case (Table VII). Das (1965) mentioned maximum hospital stay after caesarean section as 48 days.

Pitkin (1978) thus rightly pointed out that caesarean section is not without cost in terms both of dollars and morbidity.

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