

## CAESAREAN SECTION

by

R. K. CHAKRABARTY,\* M.D., D.G.O.

Since the introduction of antibiotics, liberal use of blood transfusion and advances in anaesthetic techniques, caesarean section has become safer now-a-days. As a result of these, the obstetricians of today prefer abdominal deliveries to difficult obstetric manoeuvres. Moreover, with the increase in knowledge of placental insufficiency and diagnosis of conditions whether the foetus in utero may be at risk, the incidence of elective caesarean sections is also on the increase. As a result of all these, the modern hospitals are getting more and more cases of post-caesarean pregnancies, some of which (i.e. those with recurrent indication) are subjected to elective caesarean sections. Hence, a previous caesarean section is more important in the list of indications in recent reported series.

The present study consists of one hundred and fifty consecutive cases of caesarean sections done at the Postgraduate Institute of Medical Education and Research, Chandigarh. The period of study extended from 1st January, 1967 to 23rd October, 1968 during which time the total number of deliveries was one thousand nine hundred and ninety-three. The patients included both booked and non-booked cases, the majority of whom were unbooked (65%). Patients who had paid at least three antenatal visits were classed as booked. The cases in-

cluded patients of varying socio-economic groups residing either in Chandigarh or coming from the surrounding villages.

### *Incidence*

The incidence of caesarean section during the period of study was 7.5%. In 1967, the rate was 6.2%, whereas in 1968 upto 23rd October, it was 9.0%. The total number of elective sections in the present series was 26 (17.3% of all cases of caesarean section and 1.3% of the total deliveries). Classical caesarean section was done twice in the present series.

### *Age and Parity*

The distribution according to age and parity of the patients is shown in Table I.

TABLE I  
*Age and Parity*

Age group	Primi	P <sub>1</sub> to P <sub>4</sub>	P <sub>5</sub> and above
Below 20 years	5	1	—
20-25 years	45	34	—
26-30 years	11	26	4
31-35 years	4	6	6
36 years and above	2	3	3
Total	67	70	13

Patients with parity more than four have been grouped together as they fall under the category of grande multipara. The total number of primigravidae in this series was 67 (44.6%). The maximum number of patients fall in group of para 1 to 4 (70 cases). A similar study from Goa by D'souza (1967) has shown that the primigravidae comprised about 34.2% and there she has remarked that the incidence

*Lecturer in Obst. and Gynec., Postgraduate Institute of Medical Education and Research, Chandigarh.*

*Received for publication on 13-4-1970.*

was relatively high in comparison with the other reported series. Grande multiparae comprised 8.6% of cases in the present series which is relatively much lower than the reported incidence in D'Souza's series.

#### Indications

In the majority of the cases (56%), more than one indication was present; hence the cases have been further subdivided into those with single indication and those with more than one. In cases with multiple factors the most important indication leading to caesarean section has been shown.

The indications for all cases of caesarean sections have been shown in Table II. Analysis of the cases with single indications has been shown in Table III. The relative frequency of primi- and multiparae in relation to major indications is shown in Table IV.

TABLE II  
Indications in the 150 cases

Indications	No. of cases
1. Contracted pelvis .. ..	59
2. Foetal distress .. ..	15
3. Previous C. S. .. ..	15
4. Placenta praevia .. ..	18
5. Hypertonic inertia .. ..	9
6. Toxaemia of pregnancy .. ..	5
7. Postmaturity .. ..	4
8. Brow presentation .. ..	3
9. Transverse lie .. ..	2
10. Breech .. ..	1
11. Cord prolapse .. ..	3
12. Tumour obstructing .. ..	3
13. Elderly primigravida .. ..	2
14. Cervical dystocia .. ..	2
15. Accidental haemorrhage .. ..	2
16. Bad obstetric history .. ..	2
17. Placental insufficiency of unknown aetiology .. ..	1
18. Status eclampticus .. ..	1
19. Diabetes .. ..	1
20. Failed induction .. ..	1
21. Conjoined twin .. ..	1
Total .. ..	150

TABLE III  
Single indication—66 cases

Indications	No. of cases
1. Contracted pelvis .. ..	21
2. Placenta praevia .. ..	13
3. Previous C.S. .. ..	11
4. Foetal distress .. ..	6
5. Hypertonic inertia .. ..	4
6. Accidental haemorrhage .. ..	1
7. Transverse lie .. ..	1
8. Breech .. ..	1
9. Prolonged labour .. ..	1
10. Severe P.E.T. .. ..	1
11. Status eclampticus .. ..	1
12. Cervical dystocia .. ..	1
13. Cord prolapse .. ..	1
14. Fibromyoma in lower segment .. ..	1
15. Osteoclastoma of sacrum .. ..	1
16. Conjoined twin .. ..	1
Total .. ..	66

TABLE IV  
Relative Frequency in Primipara and Multipara

Indications	Primipara	Multipara
1. Contracted pelvis	38	21
2. Placenta praevia	5	10
3. Accidental haemorrhage	—	2
4. Foetal distress	9	6
5. Hypertonic inertia	7	2
6. Toxaemia	2	3
7. Malpresentations	5	4
8. Soft tissue abnormalities	4	3
9. Postmaturity	3	1

#### Contracted Pelvis

In 59 cases (39.3%), contracted pelvis was the indication for caesarean section. Out of these, 21 cases had major degree contracted pelvis either at the brim or in the midcavity or at the outlet, which formed the only indication for caesarean section. In the remaining 38 cases, contracted pelvis was of the borderline variety but was complicated by other abnormalities like foetal distress, bad obstetric history, elderly primigravida and so on.

### *Placenta Praevia*

In 18 cases (12%), placenta praevia was the indication for caesarean section. Ten cases had major degree (Type III and IV) and 3 cases had type II posterior placenta praevia. In these 13 cases, placenta praevia formed the sole indication for caesarean section. The remaining five cases were of minor degree placenta praevia associated with some other obstetric complications.

### *Previous Caesarean Section*

There were 15 cases (10%) of post-caesarean section pregnancy in the present series. Out of these, seven were done for contracted pelvis, two for placenta praevia and one for foetal distress. In the remaining five cases, the indications for previous caesarean section were not available. Out of these 15 cases, 10 patients were delivered by elective caesarean section.

The indication for the previous caesarean section in addition to other factors like the type of operation, the post-operative condition of the patient, the size of the baby is very important in the management of a case of post-caesarean pregnancy. In 50% of the cases in the present series, these details were not available and in 33% cases, even the indication for the operation was not known. The indications for elective caesarean section in these cases were mainly contracted pelvis and/or cephalopelvic disproportion, previous upper segment caesarean section, specially with evidence of post-operative sepsis or presence of other factors like bad obstetric history, post-maturity and so on.

### *Foetal Distress*

Foetal distress as the sole indication for caesarean section was present in six cases. In a given case, the different factors like persistent rise or fall of 20 beats per

minute than the original foetal heart rate, meconium staining of the liquor, excessive foetal movements or irregularity of foetal heart have been considered for the diagnosis of foetal distress. Presence of a single above mentioned criterion, except an acute bradycardia and foetal heart irregularity, was usually ignored and managed conservatively. In the remaining five cases, foetal distress was associated with other obstetric complications like elderly primigravida, bad obstetric history, prolonged first stage of labour, post-maturity, etc.

Apgar Score in these babies varied from four to eight. In general, better scores were obtained in the second group of nine cases where early intervention was necessitated by other obstetric complications. Intratracheal intubation was necessary in four babies (26.6%) where the score was below six.

### *Hypertonic Inertia*

In nine cases (6%), caesarean section was done for hypertonic inertia. Out of these, five cases were having induction of labour by intravenous oxytocin infusion (1:5000), the labour progressed well to about half dilatation of the cervix and later on the uterine contractions became of hypertonic type with no further progress of labour. Caesarean section was done for impending foetal and/or maternal distress caused by prolonged labour. There was no foetal loss in this group.

The remaining four cases started labour spontaneously and progressed to variable dilatations of the cervix, but later on the contractions became inco-ordinate, and the cervix became oedematous. There was no foetal loss in the second group also.

### *Toxaemia of Pregnancy*

Caesarean section was done for toxæmia of pregnancy in five cases. Out of

these, one was a case of imminent eclampsia, who did not respond to the medical treatment. In the remaining four cases, toxæmia was associated with placental insufficiency and medical and/or surgical induction of labour failed.

#### *Status Eclampticus*

There was a single case of status eclampticus in the present series. This patient was a young primigravida admitted as an emergency with thirty weeks' pregnancy, complicated by antepartum eclampsia. The fits could not be controlled with the lytic cocktail therapy (pethidine, chlorpromazine and phenargan, followed by intravenous thiopentone. Caesarean section was carried out under general anaesthesia and the patient steadily improved after the operation.

Caesarean section is not usually recommended in a case of eclampsia. But in a very exceptional case caesarean section has to be performed where fits can not be controlled by other well recognised measures.

#### *Malpresentations*

Out of six cases with malpresentation, three were brow, two were transverse lie and one was a case of breech presentation. All the three cases of brow presentation were admitted as emergency when the patient had been in labour for some time. One of the patients with transverse lie was admitted at thirty-nine weeks of gestation; external version was tried but failed. The other case was admitted as an emergency with membranes present and cord presentation.

#### *Upper Segment Caesarean Section*

There were two cases of upper segment caesarean section in the present series. The first was a case of post-caesarean pregnancy with two previous caesarean

sections. On laparotomy, dense adhesions were noticed almost completely obliterating the lower segment. The second was a case of type III anterior placenta praevia. In this case, there were large veins over the whole of the lower segment. Since the general condition of the patient was low it was considered better to deliver the patient by an upper segment section, and sterilization was done in this case.

#### *Caesarean Hysterectomy*

There were two cases of caesarean hysterectomy in the present series. In both the cases the indication was rupture of uterus. The first patient was a grande multipara who was admitted as an emergency with complaints of thirty weeks of pregnancy, antepartum haemorrhage, pain abdomen. On examination, uterus was tense and tender, foetal parts could not be palpated and foetal heart sounds were absent. Palpation of the fornices revealed major degree placenta praevia. On laparotomy, there was twin pregnancy, hydramnios, and major degree placenta praevia with rupture of the uterus in the posterior wall. This was a silent rupture which may be explained by the grande multiparity and overdistension of the uterus by twin pregnancy and hydramnios.

The second case was a multigravida in whom an oblique rupture was detected in the right lateral wall of the uterus. The foetus was partly inside the uterus and a limb was found protruding through the rent. This was an example of a case of violent rupture caused by obstructed labour.

The treatment of rupture of uterus may be either caesarean hysterectomy or conservative surgery i.e. suturing of the tear, with or without sterilization (Menon, 1962; Sheth, 1968). Sheth (1968) has suggested that suturing is a safer im-

mediate treatment than hysterectomy, and it is strongly indicated when: (1) the patient's general condition is poor; (2) the tear is recent, not bilateral and not unduly ragged; or (3) a further child is desired. Caesarean hysterectomy is indicated when the above mentioned conditions are not fulfilled and specially when there is evidence of infection, which was present in the two cases reported in the present series.

#### *Elective Caesarean Section*

These operations were performed as planned ones at term before the onset of labour. The total number of such cases was 26, i.e. 17.3% of all cases of caesarean section and 1.3% of the total number of deliveries. The indications in the cases were varied (Table V) and they included both single and multiple factors for a particular case.

#### *Maternal Mortality*

There were two maternal deaths in the present series. In the first instance, the patient developed difficulty in respiration four hours after an uneventful operation and anaesthesia. X-ray of the lungs showed extensive pulmonary oedema

affecting both the lungs. E.C.G. did not reveal any abnormality. She was put on the usual regime for the treatment of pulmonary oedema but the patient expired eleven hours and fifteen minutes after the operation. Autopsy could not be performed but the possibility of Mendelson's syndrome was strongly suspected as the cause of death in this particular case.

The second death in this series occurred in a case of antepartum haemorrhage who came as an emergency with features of shock. The bleeding continued even after the admission and caesarean section had to be performed to stop the bleeding. The operation was uneventful and the total blood loss was not more than 200 ml. The hypotension persisted in spite of adequate fluid and blood replacement. Patient ultimately died of irreversible shock.

As has been already discussed in the beginning of this paper, maternal mortality is low in cases of caesarean section, due to the advancement in surgery and anaesthesia. Most common causes of maternal mortality are anaesthetic accidents and pulmonary embolism in the postoperative period. Mendelson's syndrome (1946) is one of these important anaesthetic accidents where acute bronchospasm occurs due to inhalation of acid gastric contents into the respiratory tract (Bonica, 1967). In some cases, the anaesthetist may not even be aware of such inhalation as the amount of gastric contents aspirated may be very minimal and without any obvious vomiting.

Acute haemorrhages during pregnancy and the post-partum period causing irreversible shock are not uncommon in our country. Where there are no adequate facilities for blood transfusion, these accidents are more frequently met with. Till the time, the patho-physiology

TABLE V

#### *Elective Caesarean Section—26 cases*

Indications	No. of cases
1. Previous caesarean section	
(a) Contracted pelvis ..	7
(b) Previous classical ..	2
(c) Previous 2 sections ..	1
2. Major degree contracted pelvis	5
3. Severe toxæmia ..	2
4. Bad obstetric history ..	2
5. Major degree placenta prævia	1
6. Placental insufficiency ..	1
7. Diabetes .. ..	1
8. Breech with other complications	2
9. Transverse lie .. ..	1
10. Conjoined twins .. ..	1
Total ..	26

of irreversible shock can be further probed into, these accidents cannot be avoided.

#### Foetal Salvage

In this series, the total number of babies delivered was 151 (one case of twin pregnancy). Out of these, 146 babies were live born and five were stillborn. The following were the causes of still birth;

1. Placenta praevia (Major degree) 2 babies
2. Cord prolapse - 1 baby
3. Rupture uterus 2 babies  
(Twins)

The patients with major degree placenta praevia were admitted late when foetal heart sounds were already absent. The patient with cord prolapse was also admitted late in labour. On examination, she was found to have osteomalacic pelvis with gross contraction and a transverse lie with hand prolapse. The foetal heart sounds were absent. The indication for caesarean section in this case was a grossly contracted pelvis with threatened rupture of uterus. The case of rupture uterus with twin dead foetuses has been already described.

Congenital malformation was observed in three babies, one with mild hydrocephalus, one with meningocele and one with bilateral cleft lip with cleft palate. The incidence of congenital abnormalities was 2%, which was relatively lower than that observed by Saifullah (1966) in a study of 1000 consecutive births in the same department.

#### Summary

A brief survey of 150 consecutive cases of caesarean section during 1967-1968 is presented. Its incidence was 7.5%. There were two maternal deaths in the present series, the incidence was 1.3%. There were five stillbirths, all were unavoidable as the patient was admitted with absent foetal heart sounds. The indications for operation have been discussed.

#### Acknowledgements

I am grateful to Prof. P. K. Devi, Head of the department of Obstetrics and Gynaecology, Postgraduate Institute of Medical Education and Research, Chandigarh, for giving valuable suggestions in the preparation of this work. My thanks are also due to the Medical Superintendent, Nehru Hospital, Chandigarh, for permission to publish this work.

#### References

1. Bonica, J. J.: Principles and Practice of Obstetric Analgesia and Anaesthesia, Philadelphia, 1967, F. A. Davis Co., p. 673.
2. D'Souza, S. and Rebello, F. M.: J. Obst. & Gynec. India. 17: 518, 1967.
3. Krishna Menon, M. K.: J. Obst. & Gynec. Brit. Comm. 69: 18, 1962.
4. Mendelson, C. L.: Am. J. Obst. & Gynec. 52: 191, 1946.
5. Saifullah, S.: "Incidence of Congenital Abnormalities in Newborn Babies". A thesis for M.S. degree, Punjab University, 1966.
6. Sheth, S. S.: J. Obst. Gynec. Brit. Comm. 75: 55, 1968.

of irreversible shock can be further probed into, these accidents cannot be avoided.

#### *Foetal Salvage*

In this series, the total number of babies delivered was 151 (one case of twin pregnancy). Out of these, 146 babies were live born and five were stillborn. The following were the causes of still birth;

- |                                    |          |
|------------------------------------|----------|
| 1. Placenta praevia (Major degree) | 2 babies |
| 2. Cord prolapse                   | 1 baby   |
| 3. Rupture uterus                  | 2 babies |
|                                    | (Twins)  |

The patients with major degree placenta praevia were admitted late when foetal heart sounds were already absent. The patient with cord prolapse was also admitted late in labour. On examination, she was found to have osteomalacic pelvis with gross contraction and a transverse lie with hand prolapse. The foetal heart sounds were absent. The indication for caesarean section in this case was a grossly contracted pelvis with threatened rupture of uterus. The case of rupture uterus with twin dead foetuses has been already described.

Congenital malformation was observed in three babies, one with mild hydrocephalus, one with meningocele and one with bilateral cleft lip with cleft palate. The incidence of congenital abnormalities was 2%, which was relatively lower than that observed by Saifullah (1966) in a study of 1000 consecutive births in the same department.

#### *Summary*

A brief survey of 150 consecutive cases of caesarean section during 1967-1968 is presented. Its incidence was 7.5%. There were two maternal deaths in the present series, the incidence was 1.3%. There were five stillbirths, all were unavoidable as the patient was admitted with absent foetal heart sounds. The indications for operation have been discussed.

#### *Acknowledgements*

I am grateful to Prof. P. K. Devi, Head of the department of Obstetrics and Gynaecology, Postgraduate Institute of Medical Education and Research, Chandigarh, for giving valuable suggestions in the preparation of this work. My thanks are also due to the Medical Superintendent, Nehru Hospital, Chandigarh, for permission to publish this work.

#### *References*

1. Bonica, J. J.: Principles and Practice of Obstetric Analgesia and Anaesthesia, Philadelphia, 1967, F. A. Davis Co., p. 673.
2. D'Souza, S. and Rebello, F. M.: J. Obst. & Gynec. India. 17: 518, 1967.
3. Krishna Menon, M. K.: J. Obst. & Gynec. Brit. Comm. 69: 18, 1962.
4. Mendelson, C. L.: Am. J. Obst. & Gynec. 52: 191, 1946.
5. Saifullah, S.: "Incidence of Congenital Abnormalities in Newborn Babies". A thesis for M.S. degree, Punjab University, 1966.
6. Sheth, S. S.: J. Obst. Gynec. Brit. Comm. 75: 55, 1968.