

REVIEW OF CAESAREAN SECTIONS OVER A FIVE-YEAR PERIOD

(1959 Through 1963 at the K. E. M. Hospital, Bombay)

by

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Caesarean section, one of the oldest operations in obstetrics, with its origin lost in antiquity, has been technically perfected greatly in the present times; with reduction in the attending mortality of this operation its scope has widened and today it is being increasingly employed in maternal as well as foetal interests.

D'Esopo, in 1948, had predicted an increase in the rate of caesarean section; he stated that "a certain number of easier mid-forceps will always be done," but predicted that "the difficult traumatic mid-forceps operations will be relegated to the category of the obsolete procedures along with high forceps, the difficult destructive operations on the foetus, as also bags and bougies."

Dieckmann, in 1950, stated, "Caesarean section performed by a properly trained obstetrician is now a recognized procedure for the management of many obstetric and

foetal complications, formerly treated by vaginal delivery, because the maternal mortality attributable to the operation itself is only 0.1% or less. The foetal mortality ascribable to the operation is less than 1.0%."

With the rising incidence of caesarean section and its increased safety, many traumatic vaginal deliveries with their attending morbidity, have now been reduced. The foetal salvage rate has also improved; and many more babies, in cases of placenta praevia, cord presentation and prolapse, borderline disproportions and abnormal presentations are being saved.

Material and Methods

The material presented is a review of the indications for caesarean sections, performed at the King Edward VII Memorial Hospital, Bombay, during the period 1959 to 1963 (June) both years inclusive. These cases have been analysed on the basis of indications, the anaesthesia employed, type of operation performed, together with a critical analysis of

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maternal and perinatal mortality.

Results

Incidence

The number of total viable confinements at the K.E.M. Hospital, between the years 1959 and June 1963, were 8,855. A total of 175 caesarean sections were performed during this period; the incidence being 1.9%.

The incidence of caesarean section at the Nowrosjee Wadia Maternity Hospital, in the years 1950 to 1954, was 1.49% as quoted by Patwardhan and Motashaw, it was 2% for the year 1961 the average incidence for the last eight years, 1954 to 1961, being 1.62% as quoted by Masani and Daftary.

The rate of caesarean section varies from institution to institution. Jeffcoate, from the Liverpool Maternity Hospital, reported a 15% section rate in 1950, the same at Queen

Charlotte's Hospital, from 1945 to 1954, was 3.3% in 27,930 deliveries.

Cox reported an incidence of 6.2% for 19 teaching hospitals, from 1943 to 1947, in the British Isles. Eastman recorded 5% incidence in the Johns Hopkins Hospital, during the years 1946 to 1953, and Schaefer and Carpenter had an incidence of 4%, during the period 1947 to 1951, for the Flushing Hospital, New York.

I. Contracted Plevis

This forms the chief indication for caesarean section and accounted for 50.7% of the total sections performed. In 28% of the cases a varying trial of labour was given.

Some of the cases of contracted pelvis present with an additional obstetric complication like an abnormal presentation. Such cases have been analysed under the respective headings.

TABLE I
Comparative Study of Indications for Caesarean Section

Indications	Queen Charlotte's Hospital, London	Liverpool Maternity Hospital	K.E.M. Hospital, Bombay	N. W. Maternity Hospital, Bombay
Pelvic contraction or C.P.D.	10.6	20.6	28.5	31
Previous caesarean section	6.4	24.2	14.2	21
Toxaemia	11.1	7.8	0.6	0.8
Eclampsia	0.9			
Placenta praevia ..	11.1	5.2	13.1	11.4
Anomalous uterine action	9.3	7.8	4.6	3.8
Cord prolapse ..	3.0	0.5	9.2	5.8
Abnormal presenta- tions:				
(i) Breech	7.7	—	1.8	3.2
(ii) Transverse lie	—	1.0	4.0	3.2
(iii) Face and Brow	—	—	6.6	1.8
Foetal distress ..	13.7	3.4	2.3	2.8
Miscellaneous ..	26.2	29.5	17.1	15.2

Contracted pelvis forms a relatively smaller indication for caesarean section in western countries, probably because of the superior average build of those patients.

II. *Placenta Praevia* forms the second most important indication for caesarean section and accounted for 13.1% of the total sections.

Many more caesarean sections are undertaken for this indication in foetal interest.

The more widespread employment of the expectant treatment and the realization of the relationship of a posterior placenta to high perinatal loss has been responsible for this increase in trend.

III. *Abnormal presentations*

Contracted pelvis is often a complicating factor in such cases. In cases where the foetus is mature and alive caesarean section offers the best chance of obtaining a living child.

Breech in a primipara is a special case; 1.8% of caesarean sections were undertaken for breech presentation in elderly primipara, 4% of cases were for transverse lie and 6.6% of cases for brow and face presentations.

IV. *Cord presentation and cord prolapse*

Caesarean section is a treatment par excellence for cord presentation when the foetus is mature and in good condition, and a quick vaginal delivery not possible.

Contracted pelvis is often a co-existing abnormality; 9.2% of caesarean sections in the present series were for this indication.

The co-existing abnormality in these cases was as under:—

- | | | |
|-----------------------|----|---------|
| (a) Transverse lie | .. | 7 cases |
| (b) Contracted pelvis | .. | 8 cases |
| (c) Contraction ring | .. | 1 case |

Of the 16 babies delivered by caesarean section only one baby was deeply asphyxiated at birth and was lost 10 minutes later.

V. *Abnormal uterine action*

This accounted for 4.6% of caesarean sections. A more judicious and widespread employment of pitocin drip and the use of a vacuum extractor in cases of multipara where pitocin is contraindicated and a forceps operation dangerous, may in the long run reduce the incidence of caesarean section for this indication.

VI. *Miscellaneous*

In this group are classified cases of previous repair of vesicovaginal fistulae, cancer of cervix, cervical dystocia following Fothergill's repair, Shirodkar's operation of internal os tightening and unaccountable bad obstetric history; 7.5% of cases belonged to this category.

Type of Caesarean Section

Of the 175 caesarean sections analysed, the lower segment operation was performed in 168 cases, giving an incidence of 96%, the classical operation being undertaken in 7 cases, giving an incidence of 4%. All the 7 patients were sterilized at the time of operation which obviated risk of scar rupture in a future pregnancy. The above figures clearly emphasize the great preference shown for the lower segment caesarean section.

Anaesthesia

The wide variety of indications for which caesarean sections are undertaken, often on patients transferred as emergencies, requires great judgement regarding selection of the anaesthetic.

Spinal anaesthesia is the anaesthetic of choice and was employed in 131 cases out of 175 cases. The relaxation obtained under spinal anaesthesia is excellent, and the maintained uterine tone an added advantage. There was no major complication following this anaesthesia. In 21% of patients there had been a transient fall of blood pressure which could be corrected easily and caused no anxiety; 3.8% of patients operated under spinal anaesthesia complained of post-operative headaches. Sections for all varieties of indications have been undertaken under this anaesthesia except cases of threatened rupture of uterus where cessation of uterine activity is of paramount importance.

General anaesthesia was employed in 23 cases. It is the most suitable form of anaesthesia in cases of threatened rupture of the uterus. The relaxation obtained under this anaesthesia is satisfactory; however, the oozing that occurs at all stages of operation, and the loss of blood after removal of placenta are a great inconvenience.

Post-operative vomiting and chest complications following inhaled vomitus is a real risk, especially as many of the cases operated on are emergency cases who have not been suitably prepared for anaesthesia.

Local anaesthesia was employed in 18 cases in this series. It is the form

of anaesthesia used in patients who are poor surgical risks or in cases where a quick caesarean section is necessary and an anaesthetist is not easily available, as in cases of cord prolapse, placenta previa, threatened rupture.

Maternal Morbidity, Mortality and Perinatal loss

The complications encountered in the 175 cases analysed were as in table shown below:—

TABLE II
Complications encountered in
175 cases analysed

Complications	Number of patients	Percentage
1. Haemorrhage ..	14	8%
2. Post-operative shock	21	12%
3. Sepsis (Pyrexia) ..	29	16%
4. Pulmonary complications	4	2.2%
5. Pulmonary embolism	1	0.5%
6. Defective wound healing	7	4%
7. Thrombophlebitis ..	4	2.2%
8. Post-operative psychosis	1	0.5%

Maternal Mortality

There were 4 deaths in the present series, the incidence of maternal mortality being 2.3%.

The causes of maternal mortality in the series were:

1. Placenta praevia — haemorrhage — shock.
2. Pulmonary embolism — 6th post-operative day.
3. Post-operative shock.
4. Post-operative shock — toxæmia.

Foetal Complications

TABLE III

Foetal outcome and complications in the present series

Full-term babies ..	163	
Premature babies ..	12	
Full-term still-birth ..	3	} 2.3%
Premature still-birth ..	1	
Neonatal deaths ..	4	2.3%
Perinatal loss ..	8	deaths in 175, i.e. 4.6% incidence
Detailed neonatal deaths:		
Bronchopneumonia ..	2	
Hydrocephalus ..	1	
Achondroplasia ..	1	

In the 4 neonatal deaths in the series two babies were lost of bronchopneumonia and there were 2 cases of congenital malformation. As the practice of taking a routine x-ray prior to every caesarean section is not a routine at this institution, these two cases were subjected to caesarean section involuntarily. This fact emphasises the importance of routine radiographs prior to all caesarean sections.

References

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TABLE IV
Details of still-births

Baby weight	Maternal factors	Foetal factor
1. 7 lb. 4 oz.	Threatened rupture of uterus	Intra-uterine death
2. 4 lb. 12 oz.	Severe toxæmia with A.P.H.	Intra-uterine death
3. 3 lb. 8 oz.	Central placenta prævia	Intra-uterine asphyxia
4. 5 lb. 4 oz.	Cord prolapse	Intra-uterine asphyxia

The total perinatal loss in the present series was 4.6%. There were 4 still-births. The caesarean sections in 3 of these cases were undertaken in purely maternal interests. In the fourth case, the cord pulsations were present at the time of commencement of the operation; after delivery the foetal heart was beating for about 10 minutes, but in spite of attempts at resuscitation the baby could not be revived.

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