

STATISTICAL ANALYSIS OF CAESAREAN SECTION

(Done in Patna Medical College Hospital in the year 1962)

by

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The place of caesarean section in modern obstetrics can be judged from the statistical reports of the incidence of caesarean section performed in various countries for different types of obstetrical problems. The superiority of this operation over the highly manipulative and mutilating vaginal deliveries is being appreciated more and more all over the world, more so now when wide range antibiotics, improved anaesthesia and blood-transfusions etc. have helped a great deal in increasing the safety of this operation.

Incidence

The incidence of caesarean section shows a steady increase. Bhawmik, in March 1960, stated an average caesarean rate in India as 2.04%. In our hospital the data collected during the past 10 years from 1952 to 1961 show an incidence of 3.40%. Calculating for the last five years 1957-1962 it was 5.03%, whereas in the year 1962 alone the incidence works out to 6.72%.

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Paper read at the 12th All-India Obstetric and Gynaecological Congress at Ahmedabad in December 1963.

In Britain, Marshall's figure in 1955 is 6% for English teaching schools. D'Esopo gives the incidence of 6.20% from American institutions.

Thus, our figures for recent years are almost parallel with those of the west.

Indications

The indications for caesarean section have shown an impressionable and remarkable change during the last few decades. Besides, these are being continually extended by replacing the difficult vaginal manoeuvres. With Family Planning drive in the State and the small families, increasing stress is laid for the safety of the foetus and consequently many of the indications for the operation are now solely concerned with the interest and safety of the infant.

The most common indication in the present series was found to be *cephalopelvic disproportion*. This was due to factors like, occipito-posterior position of the head, deflexed head, high assimilation pelvis, post-maturity and minor and major degrees of contracted pelvis.

More than one of these factors was operating in many cases to warrant a caesarean section. To pin down the indication to any single cause was not feasible.

TABLE I

Indications for 454 Caesarean Sections
in Patna Medical College Hospital
in the year 1962

	No. of cases	Percentage
1. Cephalopelvic disproportion ..	150	33.04%
(a) Deflexed head	74	
(b) Post-maturity	4	
(c) High assimilation pelvis and minor degree of contracted pelvis	26	
(d) Contracted pelvis	46	10.14%
2. Uterine Inertia ..	73	16.08%
3. Placenta Previa ..	68	14.97%
4. Preg. after previous caesarean section ..	67	14.79%
5. Malpresentation ..	64	14.09%
6. Cervical dystocia after prolapse repair ..	7	1.54%
7. Foetal distress ..	6	1.32%
8. Elderly primipara	5	1.10%
9. Bad obstetric history ..	3	0.66%
10. Miscellaneous ..	11	2.42%

Forty-six cases were operated for contracted pelvis. Out of these, five cases of osteomalacia were admitted from the antenatal clinic with marked features in the pelvis. Four cases had caesarean section after a failed trial of forceps for outlet contractions.

Ninety-one of the patients, out of the total of 150 cephalopelvic disproportion were primiparous and the rest 59 were multiparous from 2nd to 11th gravida.

Majority of these cases came to the

hospital as emergency, already being in labour from few hours to few days. Some came with distressing features of obstructed labour. Diagnosis in most of the cases was made by careful clinical examination only; because of the limited supply of x-ray plates radiological diagnosis of a contracted pelvis was resorted to in a few complicated cases only.

Another large group of patients who had abdominal delivery are studied under the heading of *uterine inertia*. Even in this group, many patients had associated complications of malposition or minor degrees of contracted pelvis.

Hypotonic type of inertia with or without premature rupture of membranes, and delay in dilatation of cervix leading to maternal exhaustion was the main cause for caesarean section. This accounted for about 16% of abdominal deliveries in the present series. Eastman, on analysing 1000 cases of caesarean section at Johns Hopkins Hospital in 1941-49, found the frequency of abdominal delivery for this cause as 8.6%.

Placenta previa

The place of abdominal delivery in the management of placenta previa needs no elaboration. In the present series placenta previa was the indication for caesarean section in 14.97% of the total cases. All except the first degree, and second degree anterior, of placenta previa were managed by caesarean section. In Eastman's series (1941-49) 43.3% of caesareans were done for placenta previa.

Yet another large group of patients having caesarean section is labelled

under the heading of "pregnancy after previous caesarean section"; 67 patients out of 454 had repeat caesarean sections. Though the trend in our institution is to do a caesarean section at the slightest provocation in a patient who had already had a caesarean operation the dictum of "once a caesarean always a caesarean" was not followed by the rule of thumb.

In 41 of these patients the previous section was done for contracted pelvis after a failed trial of labour. All of these patients as far as possible had elective caesarean section or the operation was performed as soon as the labour started. In 15 cases the operation was done for non-recurrent causes after a short trial of labour.

In eleven cases the indication for previous caesarean section remained obscure. Five of these had classical type of operation done outside.

Malpresentation was the cause in 64 cases out of 454 undergoing caesarean section.

TABLE II

Various Malpresentations which needed Caesarean Section

Malpresentation	No. of cases
Transverse	36
Breech	21
Compound	3
Brow	3
Face	1

Unfortunately most of our transverse presentations were admitted as emergencies. Six patients had this operation after failed internal version.

Abdominal delivery was done in 6 cases of neglected transverse presentation in preference to decapitation,

or evisceration operations in the presence of dead foetus in utero.

Other indications given in the list need no elaboration.

In the series described, no caesarean section was done for toxæmia of pregnancy per se.

Type of Operation

The advantages of lower segment caesarean section over the classical type need no comments. None the less certain conditions still warrant this old type of classical operation. Out of 454 cases analysed here as many as 20 patients had classical caesarean section, some by choice and some by forced circumstances.

TABLE III

Indications for Classical Caesarean Section

Indications	No. of cases
1. Neglected transverse presentation	9
2. Anterior placenta previa ..	3
3. Severe degree of contracted pelvis	2
4. Pregnancy with carcinoma cervix	2
5. Adhesions due to previous caesarean section	2
6. Pregnancy with ovarian tumour ..	1
7. Pregnancy with locked twins ..	1

Indications

Care was taken to sterilise these patients to prevent further hazard.

Neglected shoulder presentations had maximum room for improvement if only the patients had come early to the hospital. In three patients the lower segment of the uterus was approached by the extraperitoneal route. These were severely infected cases.

Operation and post-operative management

Pre-medication for this operation was atropine sulphate 1/100 gr. given 1/2 to one hour before operation. Patients who were in shocked condition also had 1/4 gr. of morphine sulphate, intramuscularly.

Blood transfusion varying from 150 ccs to 600 ccs was given to 197 cases out of 454. Perhaps many more patients would have done better with blood transfusion.

Anaesthesia

The anaesthesia was more often ether, or NO₂ open, O₂ and ether. Four patients, in shocked condition, had the operation with local infiltration.

Only on two occasions was spinal anaesthesia given.

Morbidity

Prophylactic penicillin and streptomycin were given, in almost all the cases, after operation. Those who came with ruptured membranes had prophylactic antibiotics at the time of admission.

Higher antibiotics were used only after culture examination for causative organisms and their sensitivity to various antibiotics.

Stay of the patients in the hospital varied from 8 to 43 days, the average stay being 13.7 days.

Morbidity as judged by rise of temperature in the post-operative period and wound sepsis was found in 164 cases i.e. 36%. Three patients had burst abdomen. Mackintosh Marshall (1955) had morbidity rate of 23.5% in 246 cases of lower seg-

ment operation. Morbidity in our series is high partly because many of our patients were emergency admissions in prolonged and obstructed labour and partly due to anaemia and malnutrition.

Maternal Mortality

There were 13 deaths out of the total of 454 caesarean sections, the incidence being 2.86%. In western countries the mortality of this operation has been reduced to as low as 0.1%. Our figures are appalling no doubt when compared to the western series, but the explanation is evident with the handicap of neglected emergencies that we are faced with.

TABLE IV
Causes of Death in 13 Cases

Obstructed labour and obstetric shock	4 cases
Septicaemia	3 cases
Circulatory failure	2 cases
Burst abdomen	2 cases
Pulmonary embolism	2 cases

Anaemia was a great contributory factor to death in many of the above cases.

In some cases death was almost inevitable, since the patients reached the hospital in such a state where nothing more could be done than adding a number to our maternal deaths.

Since the death rate due to caesarean section was so high, it was thought necessary to compare it with that of the total number of deliveries. This was found to be 2.04%. Thus it was noted that maternal mortality in the total number of deliveries was not significantly different from the mortality of caesarean section.

Foetal Salvage

It is rather difficult to assess the increased foetal salvage resulting only from the greater number of caesarean sections performed. We have calculated the perinatal deaths due to forceps deliveries, prolonged and difficult labours, breech deliveries and after caesarean sections for the year 1952 when the incidence of caesarean section was only 1.85%, and have compared them with the same for the year 1962, when the caesarean section rate had gone up to 6.72%. The incidence of perinatal deaths in the year 1952 is found to be 18.34% against 12.53% in the year 1962.

The forceps rate in our hospital has remained almost stationary during the last 10 years, but the incidence of low forceps has increased in favour of the difficult midforceps.

The increase in the foetal salvage though small is none the less appreciable.

I wish to express my gratitude to Prof. S. N. Upadhyay, M.D., F.I.C.S., F.A.C.S., F.R.C.O.G. etc., Head of the Department of Obstetrics and Gynaecology, Patna Medical College Hospital for his valuable suggestions in this paper.

I am also thankful to the Superintendent, Patna Medical College Hospital for the permission to make use of the hospital records.

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