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A Recent Survey at Kandang Kerbau Hospital. The Current Indications for Caesarean Section.

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To do or not to do a Caesarean section? That is the question which often faces the obstetrician. Professor Eastman (1959), in one of his editorial comments in the Obstetrical and Gynaecological Survey stated that he could recall only one or two instances in which he regretted having performed a Caesarean section. But he remembered a larger group of cases in which he bitterly regretted that a section had not been done and still other instances in which Caesarean section was performed too late.

Originally, the operation was performed only for dystocia associated with gross pelvic deformity; to-day, because of the safety of the operation, the indications for Caesarean section are extended to include a wide variety of conditions. It is this ever-widening extension of the scope of the operation which prompted us to carry out a survey of Caesarean sections done recently in Kandang Kerbau Hospital.

Incidence

The case records of all cases of Caesarean section performed in this hospital from 1st January to 31st December 1964 were reviewed.

TABLE I

Caesarean Section (1st Jan. - 31st Dec. 1964)	1,008 cases
Total number of deliveries during the same period ...	39,598
Incidence of Caesarean section	2·5%

Table I shows that there were 1008 cases of Caesarean section during this period, which means that an average of 3 Caesarean sections had to be done each day in Kandang Kerbau hospital in 1964. The total number of deliveries during the same period was 39,598. The incidence of Caesarean section was approximately 2·5 per cent, which is low when compared with many centres in Western countries, where the figures range between 7 to 8 per cent. But a strict comparison cannot be made because some hospitals select high risk cases for booking and our figure of 2·5 per cent was probably due to dilution by a large number of normal deliveries.

Types of Caesarean Section

The majority of cases were lower segment Caesarean sections as shown in table II. The merits of the lower segment operation are well known and will not be recapitulated here.

TABLE II

Types of Caesarean section	No. of cases
L.S.C.S.	987
Classical Caesarean section ...	12
Caesarean hysterectomy ...	9

There were 12 cases of classical Caesarean section. This type of operation is now obsolete and the only reasons for which it is done are:-

1. conditions which make the approach to the lower segment technically impossible e.g. fibroids, dense adhesions, and extreme kyphosis.
2. neglected shoulder presentation
3. a pathological uterus which had to be removed at the same time

4. Post-mortem Caesarean section in an attempt to secure a live child, although we had no such cases in this series.

There were 9 cases of Caesarean hysterectomy. This operation is not without its mortality and morbidity, and should not be undertaken without a good reason. The indications for the 9 cases under review were:-

Ruptured uterus	6 cases
Uncontrollable haemorrhage	2 cases
multiple uterine fibroids	1 case.

Repeat Caesarean Section

One hundred and two cases (10%) were repeat Caesarean sections. There is a tendency for the incidence of repeat Caesarean section to increase. The often-debated dictum of "once a Caesarean, always a Caesarean" is applicable if the previous section had been done for disproportion. However, many American obstetricians will repeat a Caesarean section whatever the previous indication. In a recent series of Caesarean section reviewed by Jones (1963), the incidence of repeat Caesarean section was 44 per cent. This is not so with British practice and it has been shown that with proper selection of cases where there is no recurrent cause, over two-thirds of cases of previous Caesarean section can be safely delivered vaginally in their subsequent pregnancies. Browne and McGrath (1965) reported favourable on a series of 800 vaginal deliveries following previous Caesarean section from Rotunda Hospital, Dublin. The emphasis is on careful selection of patients, and constant supervision during labour in well-equipped surroundings. In the choice of patients, factors such as the type of Caesarean section, the skill of the surgeon who performed the previous section, the adequacy of the pelvis, and whether the puerperium was smooth are all taken into account.

Indications

Table III shows that in just over 50 per cent of cases, the operation was performed for placenta praevia, cephalo-pelvic disproportion, and foetal distress.

Indications for primary Caesarean section

TABLE III

Indication	No. of cases
Placenta praevia - -	194 (21·4%)
Cephalo-pelvic disproportion	145 (16·0%)
Foetal distress - -	124 (13·7%)
Uterine dysfunction, prolonged labour -	84 (9·3%)
Malpresentation - -	83 (9·2%)
Elderly primigavidity -	80 (8·8%)
Pre-eclampsia, Eclampsia -	46 (5·1%)
Prolapse of cord - -	41 (4·5%)
Accidental haemorrhage -	26 (2·9%)
Diabetes mellitus - -	23 (2·5%)
Miscellaneous - -	60 (6·6%)

Table IV shows a comparison of the major indications for Caesarean section expressed in percentages between the present and other series.

Placenta praevia: (21·4%)

As in the 1960 series, placenta praevia is the most common indication for primary Caesarean section in this hospital. The recent improvement in foetal salvage in cases of placenta praevia is due not only to the institution of expectant treatment but also to a more liberal use of Caesarean section. In some series of placenta praevia, the section rate is as high as 70 per cent.

Cephalo-pelvic disproportion: (16·0%)

Excluding cases of repeat Caesarean section, cephalo-pelvic disproportion is the second most common indication in the present and also in the 1960 series. The place of Caesarean section in cephalo-pelvic disproportion is well-defined. Elective Caesarean section is carried out for cases of gross disporportion. For the mild and moderate cases, where the outcome of vaginal delivery is uncertain, section is only performed after a failed trial of labour, unless other complications co-exist, when the operation may be done much earlier.

Foetal distress: (13·7%)

Our incidence of 13·7 per cent is rather high when compared with other series (Table IV). The term "foetal distress" itself is rather vague and,

TABLE IV

Indication	Present series %	Kandang Kerbau Hospital (1960) %	Edwin J. De Costa (1959) %	Mitani et al (1959) %
Placenta praevia	21·4	29	12	14
Cephalo-pelvic disproportion	16·0	21	35	18
Foetal distress	13·7	12	6	-
Uterine dysfunction prolonged labour	9·3	6	15	
Malpresentation	9·2	5	7	10·5
Elderly primigravidity	8·8	-	-	11·9
Pre-eclampsia, eclampsia	5·1	14	7	12·7
Prolapse of cord	4·5	2	2	-
Accidental haemorrhage	2·9	6	6	5
Diabetes mellitus	2·5	1	2	-

as such, its indication can be easily abused and its significance over-estimated. The diagnosis of foetal distress is based on the recognition of meconium in the liquor and/or alteration in the foetal heart sounds. But not all obstetricians are agreed on the significance of meconium in the liquor or changes in the foetal heart rate. Many advocate a policy of non-interference in cases of so-called foetal distress unless certain complications are present which are themselves unfavourable to foetal welfare and so provide an underlying cause for foetal distress.

Of the 124 cases under review, associated factors like postmaturity, pre-eclampsia, cephalo-pelvic disproportion, and uterine inertia were found in 46 cases. In the remaining 78 cases, no apparent cause for foetal distress could be found. In many of these cases, the patients were primigravid, the cervix 1 to 2 fingers dilated, with moderate to thick meconium-stained liquor but with or without changes in the foetal heart rate. One may feel that a number of unnecessary sections might have been done in this group, but with our unsatisfactory methods of diagnosis of foetal distress and without facilities for continuous monitoring of the foetal heart, Caesarean section will continue to be done for such patients. Perhaps with improved methods of diagnosis *e.g.* serial estimation of pH of foetal blood by amnioscopic sampling, the future management of foetal distress may be modified.

Prolonged labour: (9·3%)

Most of these cases had been in labour for more than 30 hours, with membrane sruptured for approximately the same time without progress. There may have been unsuspected disproportion in some of these cases. Caesarean section is being done more and more for this condition.

Malpresentation: (9·2%)

As shown in Table V, 41 of the cases were breech presentation.

TABLE V

Malpresentation:	No. of cases
Breech - - -	41
Transverse lie - -	25
Brow - - -	6
Face - -	6
Unstable lie - -	5

Caesarean section is indicated in breech presentation when:

1. the pelvis is even slightly contracted
2. the patient is an elderly primigravida
3. the foetus is very large

Foetal size is difficult to estimate, especially in breech presentation, but if despite good uterine contractions and a known adequate pelvis, the buttocks fail to descend, it is time to think again of a large baby.

There were 25 cases of transverse lie. Most of these were unbooked and admitted more often than not in well established labour. Caesarean section was preferred to risky vaginal manipulations.

Elderly primigravidity: (8·8%)

This indication is getting more common. In the present series, primigravida over the age of 30 years were included in this category. While Caesarean section is no guarantee of live birth, lesser indications assume more importance and may tip the balance in favour of a rapid termination of pregnancy by Caesarean section in those who had difficulty in achieving a pregnancy or in those whose remaining child-bearing years are few. It is interesting to note that 21 per cent of the 80 cases were in the paying class. This confirms the association between high social class and late marriage.

Pre-eclampsia and eclampsia: (5·1%)

In the past, Caesarean section for eclampsia was condemned because of the high maternal mortality associated with the procedure. To-day, with better preparation of the patient and a careful choice of anaesthesia, Caesarean section is being carried out more and more in those cases of severe pre-eclampsia and eclampsia where induction of labour cannot bring about delivery of an infant quickly enough from an unfavourable environment. Primigravida, and multigravida with unfavourable cervix, or who do not go into labour after induction are included.

Prolapse of cord: (4·5%)

This is another important indication for Caesarean section. To-day, in well-equipped surroundings, the management of prolapse of cord resolves itself into forceps or breech extraction with full dilatation of the cervix or Caesarean section if the cervix is not fully dilated. It has been repeatedly shown that the more liberal use of Caesarean section has helped to reduce the high foetal loss in this condition. This is dependent on the availability of facilities for immediate Caesarean section. With a resident anaesthetist and an obstetric theatre staffed round the clock, such facilities now exist in this hospital.

Accidental haemorrhage: (2·9%)

Opinion is divided regarding the place of Caesarean section in this condition. The present position appears to be that in the revealed or the mixed type, where there is anxiety about the foetus, especially when there is little or no progress of labour after rupture of the membranes, Caesarean section is carried out in the interest of the foetus.

For the concealed variety, until several years ago this operation was considered unnecessary as the foetus was so often already dead. But, if the patient's condition deteriorates, with increase in size and tension of the uterus, Caesarean section may have to be done to forestall the ugly complications of hypofibrinogenaemia and renal failure.

Diabetes mellitus: (2·5%)

The modern emphasis in this condition is on strict control of diabetes and delivery of the foetus between 36 and 38 weeks to prevent intra-uterine death. Caesarean section is indicated in cases where big babies cause cephalo-pelvic disproportion, in most primigravida, and multigravida who have a delay in going into labour after induction. In other words, Caesarean section obviates infant loss caused by obstetric complications, but the problems of high infant mortality in diabetes cannot be solved by Caesarean section alone.

Miscellaneous: (6·6%)

These are self-explanatory. However, two distinct observations may be made. Firstly, conspicuous by its absence is Rhesus isoimmunisation as an indication. This is because Rhesus incompatibility is not commonly met with locally. Secondly, also absent are bygone indications like heart disease and pulmonary disease which are no longer considered indications.

Conclusion

While old indications are gone, new ones have taken their place. Caesarean section is being done more and more in the interest of the

Table VI shows a list of other indications.

TABLE VI

Miscellaneous:	No. of cases
Postmaturity - -	11
Failed induction of labour	8
Ruptured uterus - -	6
Bad obstetric history -	6
Failed trial of forceps -	4
Ovarian cysts - -	4
Maternal distress -	4
Previous myomectomy -	3
Intrauterine infection -	3
Premature rupture of membranes - -	2
Suspected carcinoma of cervix - -	2
Uterine fibroids - -	2
Conjoined twins obstructing labour -	2
Chronic nephritis - -	1
Suspected acute abdomen	1
Systemic lupus erythematosus -	1

foetus and not just for maternal reasons. The question arises as to how far is the extension of the scope of the operation justified. Is Caesarean section being employed as an easy solution to all obstetrical difficulties? What are the foetal and maternal results? The answer probably lies in the maintenance of a balanced perspective towards the vaginal and abdominal routes of delivery in complicated cases.

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