# THE INDICATIONS FOR CAESAREAN SECTION*

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Caesarean section is a dramatic operation which tends to bolster the ego of the surgeon. It is one of the easiest abdominal operations from the technical point of view, and therefore should not give rise to any sense of satisfaction. But unfortunately (or fortunately) there can be much basking in the reflected happiness brought to the mother and her family circle. Many evils are covered and sins forgiven by Caesarean section. The doctor doing obstetrics—as opposed to the one who has a special affinity for, and pride in, obstetrics—often resorts to Caesarean section in cases in which it conceals the inferiority of his obstetrical ability.

A critical analysis of this operation reveals that it is no less than an admission of failure; that is to say, failure on the part of nature in not allowing natural delivery or making it hazardous to the mother or child, or failure on the part of the medical attendant in not allowing nature to run its course. Inferiority of judgment,

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or failure of perspective, or shortcoming in character, leads to a number of Caesarean sections. The operation is not time-consuming and it removes the anxiety of all concerned. To read that the incidence of Caesarean section has risen to 15% in certain areas tends to fill one with concern. There is no doubt that with modern methods of anaesthesia and resuscitative measures, and the aid of antibiotics, Caesarean section has indeed become a very safe procedure. Add safety to the simplicity of the operation and anyone can forecast an increase in its incidence. A safe increase is to be welcomed, not deplored; more mothers and babies are being saved. The great risk is an unnecessary increase in the incidence of the operation. In order not to lose sight of the *art of obstetrics* a knowledge of the broadened indications for Caesarean section is essential.

## INDICATIONS FOR CAESARIAN SECTION

### *Cephalo-Pelvic Disproportion*

As can well be understood, this abnormality should ever be the primary indication for Caesarean section. Every obstetrician the world over is agreed upon this score. However, it is justifiably felt that many sections are done for unproved disproportion. In a study of normal deliveries following upon an earlier delivery by Caesarean section Nel [1] (1954) found in an analysis of a series of cases at the Peninsula Maternity Hospital, Cape Town, and also of other series recorded in the literature, that most of these cases were normal deliveries of mothers who had been subjected to Caesarian section for supposed disproportion. To add insult to injury the babies born normally were almost invariably heavier than those previously delivered by the abdominal route. Faulty judgment is a false beacon that leads the unwary off the true course. A lack of confidence, and misplaced reliance on special investigations, are the usual evils unearthed when a thorough search is made—just as over-confidence may result in failure.

Should a patient with a questionable disproportion present herself, a careful clinical pelvic assessment should be made—under anaesthesia if required. X-ray pelvimetry, with its excellent rigid measurements, should, by good standards, be resorted to only after the true clinical picture has been obtained. No absolute reliance should be placed upon X-ray pelvimetry; the head still remains the best pelvimeter. The great unknown factors are uterine action and human reaction. The results of good uterine action are often astonishing. It must be kept in mind that our estimates of foetal size and skull flexibility are inferior. To judge the outcome of labour purely on mechanical measurements is therefore unduly harsh. Trouble presents itself immediately when uterine action falls short and the position of the foetal head is not favourable; and the skill of the obstetrician is immediately on severe trial. Much enjoyment can be derived from the skilful management of such cases. No one can lay down set times for the duration of a trial of labour. Too many variables are to be considered. The patient, her baby and her labour must be integrated and considered as one whole. Every case must therefore be studied and treated according to the mother's rights and the obstetrician's lights.

### *Placenta Praevia*

Macafee's work [2] (1946) should always receive due credit, for in a way it revolutionized the treatment of placenta praevia. There have been many variations by other authors, but they have been of minor consequence. The basic principle established is that should the patient's bleeding have ceased the main objective is the survival of the foetus. In an institution the fully investigated patient is allowed to proceed with pregnancy until she is well over the 36- or 37-week mark, unless a complication intervenes.

The main complication, naturally, is a further haemorrhage; the other is the onset of premature labour. Should the patient start bleeding, treatment will depend upon its rate. A slow leak before viability requires careful watching, whereas a rapid one demands immediate intervention. Either complication—bleeding or labour—necessitates a vaginal examination in a fully prepared theatre. Whether Caesarean section is indicated depends upon the findings. Placenta praevia of types 3 or 4 usually requires Caesarean section, whereas the treatment of types 1 and 2 will depend upon the state and dilatation of the cervix, should the patient be in labour. It is emphasized that much can be learnt from abdominal palpation; e.g., whether the head can be pushed into the pelvis—easily said yet most difficult if not impossible to perform in many normal patients. Should the head be in one or other iliac fossa and return to the iliac fossa after manipulating it over the brim (in a patient with a story suggestive of placenta praevia), the strong suggestion is that the placenta is occupying the space on the opposite side. A high mobile head which overlaps the brim suggests a posteriorly situated placenta, whereas, should difficulty be experienced in palpating the head (i.e., as if something were between the head and the anterior abdominal wall), the suggestion is obvious.

Since viability and delivery by Caesarean section have become the basic principles in the treatment of placenta praevia both maternal and especially foetal survival rates, especially the latter, have improved markedly.

### *Incoordinate Uterine Action*

This is a most distressing condition and one that leads to endless trouble for the busy practitioner. It exhausts not only doctor and patient but also the relations of both. Because of this all-round trial it is quite natural that an easy way out should be sought. On the other hand, should Caesarean section be decided upon after a prolonged unproductive labour, the question that invariably crops up is, 'Why was it not done sooner?' How these cases can be assessed is still utter mystery. The principles upon which decisions may be reached are the following:

1. *The Condition of the Patient.* By this is meant both her physical and mental condition. Should the patient be mentally negative to labour and practically 'without' herself I have no doubt that waiting only prolongs the agony and that no good can come from wasting valuable time. This statement is not one that allows for actual measurement, and therefore may be open to abuse. Should the patient's physical condition deteriorate despite adequate care there obviously is no sense in delaying the issue.

2. *The Condition of the Foetus.* Regular checking of

the foetal heart rate together with a careful study of the tone of the heart sounds is imperative. Signs of foetal distress, i.e. a rising foetal heart rate followed by abnormal slowing of the rate are usually the earliest signs of foetal distress. An irregular, slow foetal heart almost invariably denotes distress. It is obvious that a distressed baby cannot withstand the rigours of a long labour. However, it must be emphasized that the diagnosis of foetal distress is sometimes made when in actual fact there is no distress at all.

3. *Duration of Labour.* This is a vexing problem and one that has lead many obstetricians into laying down a time limit for labour in primary uterine inertia. Figures tend to show that should true labour last for longer than 48 hours the risk to foetal life becomes excessive. It must be taken into consideration that contraction and retraction affect the placental site and that interference takes place in the foetal blood-supply at irregularly recurring intervals in addition to a slight degree of permanent interference.

4. *Duration of Rupture of the Membranes.* Should the membranes rupture early in labour, as they are in the habit of doing in these cases, the contraction and retraction will have yet a greater effect on the foetus. In addition, the risk of infection becomes greater.

All these factors are to be gauged in conjunction with each other and together with the state and dilatation of the cervix, the nature of the contractions and the position of the foetal head. A Caesarean section cannot be considered in uterine inertia unless all or most of these factors are taken into account as one whole. It is the sum total that makes the medical attendant decide upon abdominal as opposed to vaginal delivery.

Constriction Ring Dystocia, should be considered in conjunction with incoordinate uterine action. Again it must be emphasized that it is only after proper assessment, and treatment aimed at relaxing the ring, that Caesarean section should be deemed the correct procedure.

*Toxaemia of Pregnancy*

Toxaemia of pregnancy on its own is a common indication for termination of pregnancy. Induction of labour by the calcium gluconate, hot bath, oil, enema, stripping and rupturing of membranes, followed by a pitocin drip if necessary, usually suffices. Caesarean section needs be resorted to:

I. Should the patient not respond to the induction of labour. Termination obviously is indicated and as the natural channels show no response the other way out may be chosen. Failure of response to induction has purposely been placed first as the acute variety can often be treated by sedation followed by induction of labour.

II. Should the toxaemia tend to become acute (in the fulminating variety the section should be done forthwith). The predominant symptoms and signs of the acute variety or, rather, the danger signs are: (1) rapid rise in blood pressure, (2) rapid increase in albumen, (3) oliguria or anuria, and (4) dimness of vision.

*Foetal Distress*

This is a most unsatisfactory indication for Caesarean section and is one which may allow no end of abuse. The diagnosis of foetal distress can only be based upon the following:

(*a*) A rising foetal heart rate.

(*b*) Abnormal slowing of the foetal heart rate during a contraction and failure to return to normal until near the end of uterine diastole.

(*c*) Irregular foetal heart beats.

(*d*) A loss of tone in the foetal heart sounds.

The causes of foetal distress early in labour other than the purely mechanical ones (e.g., compression of the cord) are most difficult to understand. It does fortunately not occur commonly.

*Rarer Indications*

*Accidental Haemorrhage.* This problem has not yet been settled, but there is some proof that accidental haemorrhage may well be the precursor of toxaemia of pregnancy and not follow as a result of it. O'Donel Browne [3] in 1952 drew forcible attention to the fact that Caesarean section in what he termed 'phase 1' would indeed save the lives of innumerable babies. It is clear that a number of foetuses succumb after the warning haemorrhage. In cases in which the bleeding has been rather profuse, abdominal pain is present, and the foetal heart is heard, there is a case for immediate delivery. On the other hand it is well known that many patients give birth to normal babies normally after quite considerable antepartum bleeds (de Villiers [4]). The difficulty, as usual, is to know just where to draw the line. Once again each case has to be judged on its own merits. Very rarely, Caesarean section may be the only way out in severe cases of accidental haemorrhage, viz. in those cases in which the fundus rises, the girth increases in diameter, and the pulse deteriorates and/or the blood pressure drops, all in spite of adequate modern resuscitative measures.

The other single indications for Caesarean section can be listed as follows:

1. A 36-37 week pregnant *diabetic* not responding to induction of labour, or one in poor labour.

2. *Prolapse of a pulsating cord* through an os not fully dilated. It is important to keep pressure on the presenting part vaginally in order to prevent compression of the cord, until the section can be done.

3. Should a *vesico-vaginal fistula* have been operated upon successfully, or should a 'sling' operation for stress incontinence have been done.

4. *Pelvic tumours* blocking the passage of the baby are not common and should be carefully assessed before Caesarean section is embarked upon. Relatively large fibroids, anteriorly situated, are drawn out of the pelvis by labour. I have encountered a tumour on the posterior pelvic wall—proved to be a kidney subsequently —not giving the slightest trouble in the normal delivery of a normally sized infant.

5. Only very rarely is Caesarean section warranted for Rh incompatability. However, should a patient give a history of successive foetal losses due to this abnormality, Caesarean section, before term, at a time fixed so that all ancillary services (laboratory, paediatric and blood for replacement transfusion) can be at hand, does save babies.

### COMBINATION OF CONDITIONS WHICH SINGLY DO NOT WARRANT CAESAREAN SECTION

Caesarean section may be very correctly indicated should a number of factors—none of which singly indicates section—present themselves in combination. These combinations are not uncommon in pregnancy and labour. In the presence of an abnormality, an additional factor often swings one into adopting operative procedures. It is re-emphasized that all these factors have to be weighed carefully in each case before the operation is undertaken. No absolute rules can be laid down. The late General Smuts's theory on holism applies very well here, viz. 'When all the factors are put together the "whole" outweighs the sum total'.

The following are a few examples of the combinations that may be found:

1. *Relative infertility* together with other abnormalities, e.g. toxaemia, abnormal presentation, incoordinate uterine action etc.

2. An elderly primigravida with the abnormalities listed above.

3. A patient suffering from *heart disease* or *tuberculosis* should not be allowed a trial labour and, therefore, should there be any doubtful disproportion Caesarean section is done.

4. In a *diabetic* with doubtful disproportion, a poor obstetrical history, or with no response or an inferior response to the induction of labour.

5. Signs of *pending uterine rupture* with an abnormal presentation.

6. *Toxaemia* with uterine inertia or doubtful disproportion, etc.

7. Post-maturity and foetal distress.

In these combinations a host of conditions may present themselves and the individual who has obstetrics at heart will weigh them and decide upon his mode of action. Should he decide against Caesarean section it must be remembered that this is an eminently reversible decision. Matters may just change—as is the nature of things—and a Caesarean become imperative.

During the 2 years 1952/1953, 648 Caesarean sections were performed in the maternity hospitals falling under the aegis of the University of Cape Town's department of Obstetrics and Gynaecology. In this time 14,151 mothers were delivered. Our hospital incidence of Caesarean section therefore is 4·58%.

The indications listed were as follow:

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| Disproportion | 279 |
| Placenta Praevia | 78 |
| Toxaemia | 77 |
| Incoordinate Uterine Action | 52 |
| Accidental Haemorrhage | 21 |
| Foetal Distress | 10 |
| Other Single Indications | 55 |
| Combination of Factors | 76 |
| Total | 648 |
| (Repeat Caesarean Sections | 133) |

A number under 'disproportion' should in actual fact come under 'combination of conditions' as occipito-posterior and inferior labour were added factors besides doubtful disproportion. True and doubtful disproportion oftimes are complicated by inferior labours.

### CONCLUSION

At no time can hard and fast rules be laid down; human beings, and factors associated with them, are too variable. Every individual reacts differently to stimuli. A pregnant mother responds to the induction of labour, and to labour itself, in her own way. It is for the clinician to observe these ways, analyse them critically, and then keep an open mind upon his course of action. In addition it must be kept in mind that there exists what can almost be described as a maternal mental control of labour; that is to say, the type of labour often depends upon the patient's mental attitude towards it. Due attention should be paid to this concept antenatally; endeavours should be made to teach the patient self-reliance. On the other hand the patient's mental attitude often depends upon the type of labour she experiences.

The response to induction and the type of labour are all-important. Should control over these factors be attained the indications for Caesarean section and the incidence of the operation will drop markedly.

### REFERENCES

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