

Munro Kerr's
OPERATIVE
OBSTETRICS

EIGHTH EDITION BY

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PREFACE TO THE EIGHTH EDITION

This eighth revision of Munro Kerr's *Operative Obstetrics* is the combined work of Philip R. Myerscough and myself. Although we have worked together I take on myself the responsibility of writing this Preface for it enables me to introduce my collaborator.

Philip Myerscough is a well-known Edinburgh teacher. Although primarily a clinician his interests in the physiological and biochemical background of obstetrics have fitted him for preparing some of the newer sections; and because his experience has been acquired both in India and in this country he is able to view obstetric problems from a wide angle. This is important, for *Operative Obstetrics* has, over the years, acquired many readers in distant lands where equipment and specialized facilities do not always reach the standards to be expected in the more advanced hospitals.

To pursue this last theme, it is, even in this country, sometimes a matter of difficulty to decide which of various operative procedures is the best to adopt in a particular set of circumstances. Still more is this true when the worker finds himself in a medically undeveloped community; having been trained under very different conditions he may be plunged into strange and even harrowing adventures. The introduction to Chapter 27 may therefore have special interest for it explains why certain procedures, now generally regarded as being of little more than historical interest, may exceptionally have a present-day use.

The present edition is heavily revised. The rapid advances in anæsthesia and analgesia as applied to obstetrics have made it necessary to rewrite much of the relevant chapter, and here I gladly acknowledge the helpful comments and criticisms of my colleague, Dr. L. E. S. Carrie of the Nuffield Department of Anæsthesia in the Radcliffe Infirmary. The chapter previously devoted to ante-natal examination has been dropped and portions of its text transferred elsewhere. Reluctantly, a few passages throughout the book dealing with historical developments have also been deleted, but these various changes have made it possible to give fuller consideration to newer topics such as shock in obstetrics and the problems presented by abortion, Rhesus immunization, and blood coagulation defects. The subjects covered extend far beyond the range suggested by the title of the work, and now include

most of the complications of pregnancy and childbirth other than those that are purely “medical”. A special feature is the full listing of references which for the convenience of the reader are given at the bottom of each page. This, I believe, is better than the more usual custom of banishing them to the end of each chapter where they too often lie unseen.

Munro Kerr had an enviable style of writing—easy and “conversational”—yet possessing much piquancy and force. I and my co-author have been at pains to preserve much of his original text, and in making additions to render them unobtrusive. Here a difficulty has arisen for Munro Kerr made free use of the personal pronoun. We have, however, continued with this practice believing that the reader can judge from the context which author is responsible; where, however, a strong personal opinion has been expressed, bracketed initials have been inserted to avoid any misunderstanding.

While we share responsibility for the work as a whole there has necessarily been a division in the detailed revision; for this, I have undertaken chapters 1, 3, 5, 7, 10, 13, 14, 15, 16, 17, 21, 22, 23, 26, 27, 29, 31, 32, 35; and Dr. Myerscough chapters 2, 4, 6, 8, 9, 11, 12, 18, 19, 20, 24, 25, 28, 30, 33, 34.

We greatly appreciate the permission given by many friends and colleagues to reproduce photographs, case records and statistical tables. Their help has been acknowledged in the text, together with the name of the journal in which the publication appeared. Should there be any inadvertent omissions we offer an apology coupled with a renewed assurance of thanks. I would also add a personal note of thanks to the many reviewers of previous editions for kindly and helpful comments which have served to give increased purpose to the successive editions.

Finally, it is a pleasure to acknowledge our debt to the publishers who have given us so much help and encouragement in our task.

J. CHASSAR MOIR

July, 1970

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CHAPTER I

INTRODUCTORY

Eutocia, Dystocia and Surgical Emergencies

Eutocia, or normal labour, may be defined as a labour in which the process of parturition is spontaneous, uncomplicated, and not unduly prolonged. *Dystocia*, or difficult labour—the condition with which we are more especially concerned in these pages—may be defined as a labour in which the process of parturition is complicated in some way or other and in which, generally speaking, some minor or major operative interference is necessary.

The borderline between these two types of labour is not always clearly defined. Nature in parturition, although generally following a certain course, refuses to be trammelled by hard-and-fast rules. It is important for the accoucheur to remember this fact, and to appreciate within what limits Nature may be allowed a free hand. The mistake is too often made of forgetting it and of interfering when, with a little patience, interference would have been unnecessary. But, if it is of importance that the accoucheur should appreciate the natural variations of parturition, it is equally important that he should recognize when Nature is at fault, and that he should do this as early as possible. He must never presume that a parturition is normal. *He must not be content until he has satisfied himself that it is not abnormal.* Again and again one sees how failure in this respect results in complications being overlooked until they cannot be remedied, and the child's, and even occasionally the mother's, life sacrificed or greatly endangered. This does not imply that he must always interfere early in labour; in many cases of dystocia *timing* of interference is the all-important detail.

Another matter which should ever be borne in mind is the limitations of the different operative procedures. Even to-day there are admitted to maternity hospitals a considerable number of cases in which the medical attendant has failed to appreciate this. Most of such cases are examples of contracted pelvis, impacted shoulder presentation, occipito-posterior or mento-posterior positions of the head. It would appear as if the inexperienced operator considers it a disgrace, not only to his obstetric skill but to his physical powers, if he fails to effect delivery by forceps or version; and so he has recourse to unjustifiable force. As I shall point out in the following pages, the employment of force is almost always wrong; not only is it unscientific but in a very large proportion of cases it results in a transient, or even permanent, injury to mother or child, or both. It generally means that the operation selected was unsuitable or was badly performed. I do not

deny that on exceptional occasions some degree of force has to be employed but only when there is no alternative procedure in the circumstances. If the child is dead, delivery should be completed by diminishing the bulk of the child by embryulcia. It is quite profitless to drag a dead child out of the parturient canal with difficulty, when by performing craniotomy it could be extracted with ease; or to perform a very difficult version in an impacted shoulder presentation when by decapitation, or by abdominal section the child could be delivered with greater safety to the mother. In a difficult labour, therefore, the accoucheur must carefully observe the condition of the child. He must never sacrifice it if, with safety to the mother, he can save it; but he must also effect the delivery in the easiest manner should it succumb.

At the other extreme is the too free employment of Cæsarean section for conditions which can be quite satisfactorily treated by simpler obstetric methods. The most striking development in operative obstetrics during the last twenty-five years has been the extension of the operation of Cæsarean section, as the means of combating the complications of parturition. The problem to-day is to maintain a balanced perspective towards the vaginal and abdominal routes of delivery in complicated cases. And this is not easy for the obstetric specialist brought up on the traditional methods of vaginal delivery who is yet forced to admit, from his clinical experience, that in a large number of complications the abdominal route by Cæsarean section gives better results in respect of both mother and child. Indeed, the marked reduction in the foetal mortality and morbidity rates if Cæsarean section is employed is largely responsible for the very striking extension of the operation in recent years. An outstanding example (pelvic disproportion apart) is *placenta prævia*. Beyond any shadow of doubt it has been proved that the best results for mother and child are secured by Cæsarean section. Little wonder, therefore, that leading obstetric surgeons in this and other countries now employ it in as much as 70 per cent. of cases of *placenta prævia*.

As stated, the risks to the mother from Cæsarean section, if the operation is performed before or early in labour and by an expert obstetric surgeon, are small (less than 0.15 per cent. mortality rate). Even in less favourable circumstances, when in the past the danger of infection was a restraining influence in the choice of Cæsarean section, the operator now armed with the modern antibiotics can shoulder far greater risks, knowing that the danger of peritonitis following the operation has been enormously reduced.

Let there be no misunderstanding, however. I condemn the indiscriminate employment of Cæsarean section. There is more than a suspicion that in some centres this method of delivery is greatly abused and made to serve for almost any abnormality, real or imaginary. The zealots responsible may display commendable surgical skill but they can have little or no understanding of the scope of vaginal methods of delivery and still less of the finesse to be aimed at in their execution. Nor should the remote disadvantages of Cæsarean section be forgotten. The slight but definite risk of uterine

rupture in future pregnancies necessitates the women being kept under careful supervision in a hospital or nursing home during the later weeks of pregnancy and finishing up possibly with a "repeat section"—*necessary* of course if pelvic deformity is the indication, but *unfortunate* if there is no indication for Cæsarean section other than the existence of the uterine scar of the previous operation. Then, too often, for personal or economic reasons, or frankly because of a misunderstanding of the nature of the operation, the husband and wife avoid future pregnancy, and that reproach to obstetricians, the "one-child Cæsarean section sterility," results.

Naturally, the relative claims of mother and of child frequently require to be considered in cases of dystocia, and nothing taxes so much the judgment of the accoucheur as giving each its proper place, for their interests are often antagonistic. Only by experience, and a balanced consideration of all the circumstances, will the obstetrician learn how to act in a particular case—each case is a specific problem. No hard-and-fast rules can be laid down, and obstetricians of equal ability, knowledge, and experience, may act differently under the same circumstances. The obstetrician must ever avoid taking up an extreme position and becoming a partisan for or against any particular treatment. Progress in obstetrics has been much retarded in all ages by those who have unfortunately adopted such an attitude.

The Primary Causes and Features of Dystocia

There are three factors which influence labour—the *forces*, the *child*, and the *passage*—and it is often difficult, especially in the minor forms of dystocia, to determine which is responsible for sometimes more than one is at fault. The obstetrician, however, must carefully consider all, and give to each its proper place. The easiest explanation of a delay or difficulty is to blame the forces—the factor which is most indefinite and most difficult to estimate. But the accoucheur should not rest satisfied with attributing delay to this cause until he has made certain that neither of the other two factors is at fault.

Again, labour may be disturbed by accidents to the parturient, such as rupture of the uterus, or hæmorrhage, such as that associated with placenta prævia. These and many other complications considered in these pages, the accoucheur must be alert to appreciate. Frequently he has to deal with such contingencies with celerity; and sometimes under conditions far from favourable, and with very inadequate assistance. Appreciating this fully, I have tried, in considering all complications, not only to describe the ideal treatment of the particular condition, but also, when such treatment is impossible, to indicate the best course to follow in the circumstances.

There remains, however, another group of cases in which the factors of labour may or may not be disturbed, but operative interference becomes

necessary in the interests of the mother or child, because the vitality of one or other shows signs of progressive worsening. Let us now consider this group in more detail.

In case of the mother—if actual disease such as cardiac decompensation, anæmia, pregnancy toxæmia, etc., is not present—it will be found, almost without exception, that one or more of the factors of labour is disturbed. In this connection it must be remembered that women bear labour very differently, and that consequently earlier interference is necessary with some than with others. Generally speaking, the pulse is a fair guide. To have the full benefit of this guide, however, one must know beforehand the ordinary rate and character of the pulse. It is by no means uncommon to find a pulse-rate of 90 to 110 quite early in labour; indeed, even during the later weeks of pregnancy. A progressive rise in pulse-rate should always be looked upon as a danger-signal. The same applies to a steadily rising temperature, restlessness, and increasing acidosis evidenced by ketonuria.

Reference so far has been made to the early indications for interference, but none to the later and graver indications—tetanic contraction of the uterus, tenderness over the lower uterine segment, and the appearance of Bandl's ring. Without doubt, they also are indications for immediate delivery. But they should never be allowed to develop; the uterus should have been emptied before they made their appearance.

In the case of the child, a steady slowing of the foetal heart, especially when the rate decreases below 110, points to the child's life being in danger. During the second stage when the head is being compressed the heart-beats are much affected by the uterine contractions, but if the child's vitality is undisturbed they quickly return to the ordinary rate as the contractions pass off. When they return slowly, and especially when they are irregular, there is no time to lose if the child is to be saved. But I would warn my readers that the foetal heart sounds are very easily affected. Failure to appreciate the very temporary nature of some alterations is the cause for much unnecessary early interference with forceps, as is pointed out later.

The escape of meconium, in presentations other than the breech, is another danger-signal on the side of the child. Small quantities of meconium may be discharged into the amnionic cavity, and this may occur even during pregnancy, but free escape of meconium during prolonged labour, or consequent on rapidly superimposed uterine contractions, calls for speedy delivery should maternal conditions justify this procedure; this is especially so if there is also a persistent slowing, or irregularity of the foetal heart rate. The detection of hypoxia by the micro-analysis of a sample of foetal scalp blood is another method of "monitoring" now under trial.

Strong and irregular foetal movements also frequently precede the death of the foetus during labour. With the mother very restless and suffering from the pains of labour, this symptom is seldom of much practical value.

We must chiefly depend, therefore, upon the condition of the foetal

heart. If the labour is at all protracted, the accoucheur should auscultate the foetal heart frequently, and note its rate and character and how it is affected by the uterine contractions.

The Prevention of Dystocia

The acknowledged triumphs of preventive medicine in so many fields naturally raise the question, *How far can dystocia be prevented?*

Preventive medicine applied to obstetrics has as objectives: (a) the preservation of the expectant mother in health; (b) the preparation of her for labour, so that she may pass through the ordeal with the least injury to herself and her offspring, and with the least possible exhaustion. It is the second objective with which this volume is concerned more especially—the means to be employed to prevent, or, if this is impossible, to anticipate, prepare for, and deal with, the complications and difficulties of parturition at the right time and in the right manner.

Until comparatively recent years difficulties and complications of labour were dealt with as they arose, with the result that to a large extent they presented themselves as surprises. To-day, by means of careful examination in the later weeks of pregnancy, surprises have been reduced to the minimum.

All malpresentations and malpositions of the foetus, with the exception of some “face” and “brow” presentations which develop early in labour, can be recognized by palpation, auscultation, and in cases of doubt by radiography. Plural pregnancy, foetal malformations such as hydrocephalus or anencephalus, and intra-uterine death, can be recognized by these same methods; here, however, only by radiography is it possible in many instances to reach an exact diagnosis. Malformations of the pelvis can be diagnosed, and the degree of disproportion estimated by clinical methods, or measured more exactly by radiography; this permits us to induce labour or to leave the labour to take its course in slight disproportion—the “trial labour” for borderline cases, and “elective” Cæsarean section for pronounced pelvic deformity. Take, again, the hæmorrhages of the later months—placenta prævia and abruptio placenta. In most instances of the former condition there is a displacement of the foetal head and the warning signal of repeated slight hæmorrhage prior to the severe bleeding which prostrates the patient and places her life in jeopardy. It is true that in the worst form of placenta prævia (central) the first hæmorrhage occurs late in pregnancy, or even may be delayed until labour has commenced; and it is also true that the gravest variety of abruptio placenta the hæmorrhage (concealed) in many instances occurs without external evidence. Usually, however, with the latter there are the warning signals of high blood pressure and albuminuria. In both

conditions an X-ray examination may be of assistance in determining the placental site.

It follows then, that this complete examination in the thirty-sixth or thirty-seventh week permits the accoucheur to cut down uncertainties, in the great majority of cases, to (a) the strength of the expulsive forces ; (b) the resistance of the soft parts of the parturient canal together with the "give" of the bony pelvis ; (c) the moulding of the foetal head. To this may be added, (d) prolapse of the umbilical cord.

Prolapse of cord is, and will always be, associated with a very high foetal mortality—it is an entirely unpreventable accident. The chance of its occurrence, however, if presentation of child is normal (first or second vertex) and maternal pelvis is normal, is approximately only 1 in 1,500.

The abnormalities which can be corrected are for the most part faulty presentations of the foetus. The advantages, for example, of converting a breech into a vertex presentation usually outweigh the disadvantages and dangers, as I point out in due course.

The recognition of normal conditions, and the planning out beforehand how an abnormality should be approached, if it cannot be corrected—in other words, antenatal supervision in the complete sense of the term—is one of the aims of obstetric art. But much that passes muster as antenatal care is totally inadequate; indeed, in many instances it is worse than no antenatal care, because it creates a false feeling of security in the mind of both supervised and supervisor. For this unsatisfactory state of affairs the attendants are not entirely to blame; in many instances patients fail to avail themselves of medical advice during pregnancy, or neglect to follow the advice given them.

The modern pursuit of "Natural Childbirth"—a movement identified particularly with the teachings of the late Dick Reid,¹ but now elevated almost to a cult by his over-zealous followers—will not solve the problem. Robustness of body, tranquillity of mind, and control over the action of voluntary muscle are all desirable qualities but they provide no insurance against the disturbances and complications of pregnancy and childbirth. Modern methods of nerve-block analgesia do, however, provide a very useful means of reducing mental and physical exhaustion to a minimum.

What is necessary to-day is wide clinical experience, judgment, a proper sense of proportion, rectitude of conduct (obstetrical) on the part of attendants be they specialists, family practitioners or midwives, and fuller co-operation on the part of patients. The duties of the attendant are very much those of a navigator. The latter employs charts, observations, soundings, etc. Only by employing comparable precautionary measures can we hope to reduce the disasters of childbirth to a low figure. Most encouraging is the decline in the death rates, maternal, foetal and neonatal, that has been reported in the last twenty years (Chap. 35).

¹ *Childbirth without Fear ; The Principles and Practice of Natural Childbirth* (1954), London.

The “Surgical” Emergencies of Pregnancy

Finally, the obstetrician must be ever prepared to meet and to deal with the grave emergencies that occasionally develop *during* pregnancy—ectopic gestation, abortion and hydatidiform mole, pregnancy in association with abnormal development of the uterus, pregnancy in association with pelvic tumours. In the subsequent pages we have devoted special chapters to a full discussion of these vitally important conditions which, even now, contribute not inconsiderably to the total of maternal deaths.

CHAPTER 2

INTRANATAL CARE

Attention to details is so essential in the management of labour, normal and complicated alike, if a low mortality and morbidity rate is to be secured, that I feel confident my readers will excuse the inclusion of many elementary details in this chapter.

“Antenatal methods are the strategy, intranatal methods the tactics of obstetrics. There is, I believe, a tendency nowadays to exalt the strategy at the expense of the tactics. How wrong this unequal conception of midwifery practice is becomes at once apparent when we realize that when treatment is indicated, as the result of antenatal examination, such treatment usually consists in the application of intranatal methods. . . . Though antenatal work is of immense importance, yet the importance of the intranatal period and the necessity of getting a better standard of midwifery practice must be recognized much more than it is at present.”

These words of Eardley Holland are as true to-day as when he gave expression to them many years ago.

EXAMINATION EARLY IN LABOUR

If the thorough antenatal examination has been carried out, and if everything was then found to be normal in respect to the position of the head, the capacity of the pelvis and the condition of the soft parts, there is no necessity to do more than confirm by abdominal examination the position of the head, and locate the position of the heart sounds and anterior shoulder. The basic steps in abdominal palpation are shown in Figs. 2, 1; 2, 2; and 2, 3. No vaginal examination is called for—it is unnecessary to determine the degree of dilatation of the os externum. The only justification for a vaginal examination in the circumstances is to exclude the possibility of presentation of the cord. I would remind readers, however, that with normal pelvic inlet and normal position of head (head being fixed), the chances of presentation of cord are approximately 1 in 1,500–1,750 (p. 237).

It is often difficult to restrain junior assistants and house surgeons from making vaginal examinations early in labour in patients already examined at or after the thirty-sixth week and with conditions pronounced then to be normal. Even a carefully conducted examination is associated with some danger of infection, because to reach the cervix at this stage is difficult, and in making the examination the vaginal entrance is very much pressed and rubbed, as also is the os externum, by the examining fingers.

If, on the other hand, the antenatal conditions showed any departure from the normal—slight disproportion, occipito-posterior or face position,

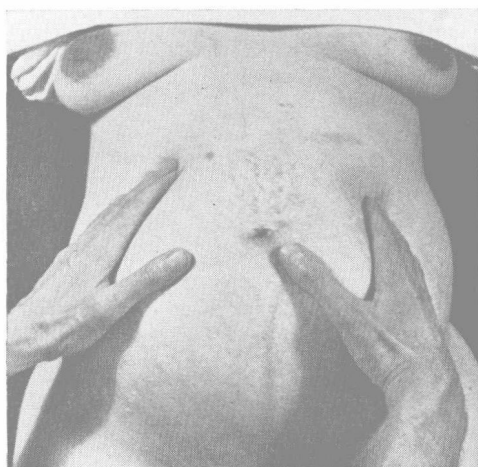


FIG. 2, 1.—ABDOMINAL PALPATION, FIRST MANŒUVRE.

The hands placed at the sides of the upper abdomen detect the height of the uterus. The fœtus is then quickly but gently pushed from side to side with the flat of the hands; this enables the examiner to recognize the part that occupies the uterine fundus and is preferable to simultaneous pressure with both hands.



FIG. 2, 2.—ABDOMINAL PALPATION, SECOND MANŒUVRE.

The left hand presses down the fœtus and steadies it. The right hand quickly palpates corresponding points on the right and left sides of the abdomen. The fetal back is recognized as an even, firm, rounded object; the "limb side" by comparison is "empty" or irregular.

1*