

General Practice Series

INDICATIONS FOR FORCEPS DELIVERY

PATRICIA J. H. MASSEY, M.B., CH.B., F.R.C.O.G.

Senior Lecturer and Senior Obstetrician and Gynaecologist, University of Cape Town and Cape Provincial Administration

Forceps delivery in midwifery is one of the most useful, safe and satisfactory methods of terminating labour in the second stage. In spite of, and because of, the increased use of Caesarean section today, resort to forceps delivery should be made far more frequently. The indications for forceps delivery are increasing, and rightly so, if by their judicious application in the second stage more babies are delivered safely and more mothers are spared the distress and exhaustion of the second stage.

The safe application of forceps still depends on a series of absolute conditions. The membranes must be ruptured, the cervix fully dilated, the bladder and rectum empty, and the head through the brim; there must be no undeliverable position of the head, and a general or local anaesthetic must be used. The modern use of a local anaesthetic in the form of a pudendal block is highly satisfactory in most cases. The well-judged timing and placing of a postero-lateral episiotomy is also invaluable. The days of difficult 'high forceps' are now over since these are the cases which call for Caesarean section. 'Trial labour' is still a very useful method of assessing the capacity of the pelvis and the uterine action. There are a few cases where a place for 'trial forceps' is present in which, if it is found that forceps delivery is not going to be easy, it is better to turn to a Caesarean section. Trial forceps are always applied in a theatre fully prepared for Caesarean section.

INDICATIONS

Delay in the second stage is probably the indication most frequently found. Once the patient has been in the second stage for a short time without progression (there is no reason to stick to an arbitrary length of time before terminating the labour, especially in cases where inertia has already produced a long first stage) aided delivery is of marked future psychological and present physical benefit.

Many patients are taught and believe in the efficacy of 'relaxation instruction'. However taught, their first stage of labour is in most cases accomplished with greater ease and therefore with little or no sedation, or sedatives are given later in the first stage than is usual. Previous instruction how to use the voluntary muscles in the second stage makes for greater cooperation and less distress and apprehension. Unless carefully observed, it is not always realized just how much the patient, and how little the uterus, is doing. If the second stage progresses slowly in these cases, forceps should be used, otherwise third-stage inertia and postpartum haemorrhage may develop, despite intravenous or intramuscular injections of one of the ergot preparations.

It is well to remember that the cause of delay in the second stage is most commonly either *inferior uterine contractions* or *poor maternal efforts at bearing down*.

Persistent occipito-posterior position of the head is such a common cause of delay in the second stage that it should always be suspected. Careful examination under anaesthesia is essential, for the true position of the head must be known before forceps can be applied. Whether the instrument is applied with the head in the occipito-posterior position, or whether the foetal head is rotated manually before applying forceps, depends entirely on how well the operator understands the mechanism of this condition and on his skill and experience. If the attempt to deliver the head as a P.O.P. fails, it is because the practitioner does not bear in mind that in cases of spontaneous delivery of P.O.P. flexion of the head on the perineum occurs before extension. Even with flexion and traction the attempt may fail. The forceps should be removed and after manual flexing of the head it should be rotated into the occipito-anterior position. The instrument is re-applied and usually by light and correct traction the head is delivered (provided the head is flexed properly, its diameters are reduced and it can always be rotated). However, when dealing with a posterior occipital position in a patient with an anthropoid type of pelvis this flexion/rotation manoeuvre is unnecessary. The head should be delivered in the posterior position.

Deep transverse arrest of the head is not so commonly encountered, but it should be suspected if the second stage has been in progress for some time and the patient has had no desire to bear down, i.e. she feels she cannot get a 'bite' on the head to bear down. A careful examination should reveal the condition even if much caput obliterates the sutures, for once an ear is palpated posteriorly there is no doubt of the diagnosis. Flexion and manual rotation of the head to an anterior position before forceps are applied make for quite easy extraction. Kielland's forceps, although invaluable in many cases, are not necessary if proper flexion is accomplished.

Face presentation. This condition is comparatively rare and demands that the second stage should not be allowed to proceed too long. Any delay or foetal distress after full dilatation of the cervix should suggest that the position is probably mento-posterior. A careful examination should be made to determine the true position and, if mento-anterior, forceps may be applied. If mento-posterior, extension must be obtained before manual rotation of the head is attempted. After forceps are applied, the blades must be locked under

the pubic arch and *extension increased* before delivery is attempted by traction, flexing the head by the chin under the arc as it descends. Episiotomy is obligatory. Kielland's forceps may be found useful in these cases but the mechanism of extension before rotation and flexion with extraction must be remembered.

Brow presentation. This condition may be corrected to a vertex in the first stage or left to become a face presentation. Careful supervision is essential and many cases are best dealt with by Caesarean section. However, if a brow presentation is encountered in the second stage, forceps delivery is often extremely dangerous because the presenting part after correction is high and in many cases version and breech extraction may be safer for the baby. Care must be taken lest these manipulations result in a ruptured uterus. Caesarean section is preferred to the risk of this complication. There are occasions where version and breech extraction can be quite safely accomplished, especially if the second stage has not been in progress too long in multigravidae. It is possible, however, in a few cases of brow presentation after correction to vertex, to find the head will go into the brim quite readily, in which case forceps delivery can be accomplished with ease.

Regidity of the perineum due either to spasm (associated with fear) or, possibly, to fibrous tissue is a rare, but clear-cut condition. The second stage is delayed because the perineum does not allow the birth of the head. A wide episiotomy under local or general anaesthesia, followed by lifting the head out by forceps, deals with this cause of the obstruction to the normal passage of labour.

On occasion the practitioner might be called in to a patient who has been allowed to remain in labour for too long a time in the second stage. *The head should not be allowed to remain on the perineum for more than 2 hours.* Further delay may be associated with sloughing and the train of its sequelae. Forceps should then be applied, despite the fact that the uterus may not be acting. Thus sloughing is prevented. Uterine action can be stimulated by the injection of ergometrine 0.5 to 1 mg. intramuscularly or intravenously once the anterior shoulder of the foetus is born.

Contracted pelvis. Minor degrees of contracted pelvis, which allow the head to descend to the level of the ischial spines, are usually accompanied by delay in the first and second stage so that there is little point in waiting until the mother and/or the foetus become exhausted. Delivery should be assisted by the timely and correct application of forceps.

Forceps delivery of the *after-coming head in breech* presentations is sometimes a most valuable method and preparations for this must be made before the second stage of labour is reached. If difficulty is encountered in the delivery of the head, the use of forceps can overcome this with far less danger to the baby than too forceful manual delivery.

Foetal distress. Unless careful watch is kept on the foetal heart and preparations made for forceps delivery in the second stage, a number of babies will be lost. Auscultation of the foetal heart at regular intervals during the second stage is essential. Should the heart rate gradually rise from the steady 130-140 per minute to 160 and over, no time should be lost in assisting delivery. Slowing and irregularity of the foetal heart rate are also vital signs of intra-uterine foetal anoxia indicating immediate treatment.

Intrapartum haemorrhage necessitates rapid delivery in the second stage. It is well known that the blood pressure rises appreciably in labour so that there is no point in allowing the second stage to continue for any length of time when, by applying forceps, one can shorten this stage, so increasing the chances of the child. This is especially necessary in patients suffering from pre-eclamptic toxæmia, accidental haemorrhage or eclampsia. These conditions are associated with high foetal mortality.

An abnormally short cord, or one that is wrapped round the neck several times, may cause sudden foetal distress in the second stage. A prolapsed cord in the second stage or partial separation of the placenta are all conditions which may arise in labour and are best dealt with by forceps delivery. The occurrence of these conditions in the first stage calls for Caesarean section.

Twin pregnancy. The frequent occurrence of toxæmia and inertia in twin pregnancies calls for a prolonged, but thorough, observation throughout labour. It is obligatory to palpate the mother's abdomen carefully after the first twin's birth, correcting any malposition. It is essential to listen to the foetal heart because any deviation from the normal warrants immediate delivery.

The membranes of the second sac are ruptured and the second twin, if presenting by its vertex, delivered by forceps. In some cases delivery by version and extraction by the breech is to be preferred if there is insufficient descent of the head through the brim, or if the second baby is larger, which makes the application of forceps to a high mobile head a rather hazardous manoeuvre.

Previous Caesarean section. With the great increase in the number of Caesarean sections which are being done for conditions other than disproportion, a careful and particular guard has to be kept lest the uterus rupture in late pregnancy or in labour. Once the patient has arrived in the second stage safely, delivery should be terminated by instrumental means. This is mandatory, for, even in patients who have had previous vaginal deliveries, there is great danger of partial rupture if not complete rupture of the scar. It most commonly occurs in the second stage of labour.

Maternal distress. Women bear labour very differently, and consequently it is necessary to interfere earlier with some than with others. Assessment of maternal distress is a very subtle thing and it begins quite early in labour in many cases. It is often found that the pulse rate may be 90 or even 100 beats per minute quite early in labour. A steadily rising pulse rate must always be looked upon as a danger signal. The same applies to a steadily rising temperature. Sweating, restlessness, acidosis and dehydration are also symptoms of distress. A patient may become very apprehensive and yet no other signs of distress are apparent. Tenderness over the lower segment is a danger sign. If the second stage is present and the head is low enough, deliver by instruments, otherwise a Caesarean section must be carried out immediately.

Cardiac cases are usually best rested in bed for the last few weeks or even months of pregnancy, depending on the severity of the cardiac condition. Labour is allowed to proceed normally until the second stage is reached, when forceps should be applied. Pudendal block anaesthesia is given before exhausting attempts at bearing down are allowed.

Other conditions which call for treatment on the same lines as cardiac cases are chronic asthma, bronchiectasis, and pulmonary tuberculosis. Not to be overlooked on any account are the "grand multiparae" who almost always have some complicating condition such as poor abdominal walls, minor degrees of myocarditis and often essential hypertension.

Elderly primiparae seem to be encountered to a greater extent today than ever before and, unless they have some condition which calls for Caesarean section, they take great pride in showing how well they are able to deliver themselves normally. They should not be allowed to remain in labour for too long a time. The slightest delay in the second stage should call for instrumental assistance.

Diabetics do not necessarily require Caesarean section—especially multiparae who have had previous vaginal deliveries and where labour is induced 3 or 4 weeks before term. Forceps delivery in the second stage may be required in most of them. This disease has a very high foetal death rate, particularly in the neonatal period. No strain should, therefore, be allowed during the second stage. These infants are placed in an incubator for at least a week following delivery, no matter what their birth weight might be.

Anaesthesia is dangerous for both mother and baby. The inhalation of vomitus may be lethal—especially when the mother has been given glucose water as readily assimilable food. The inhalation aspiration of glucose water and gastric hydrochloric acid is phenomenally dangerous. The effect of the anaesthetic on the baby is depressing and often lethal. The deleterious effects of anaesthesia on uterine action in the third stage of labour are well known.

Pudendal block not only obviates all these risks but has the added untold advantage of making it possible for the doctor to undertake the operation alone, i.e. no matter how remote the practitioner may find himself from the assistance of a colleague.

Do not think from the foregoing that a more radical approach to midwifery is advocated. It is not! It is far better in all cases proceeding normally, who have no other complications, to leave them to deliver spontaneously. Careful watch and supervision of the woman in labour will show the slightest deviation from the normal and it is in these cases that an early termination of the second stage is so valuable in saving babies and in the prevention of maternal exhaustion. A reasonable approach, the correct one, may well lead to a higher but safer incidence of forceps application.

SUMMARY

The indications for forceps delivery may be summarized as follows:

Conditions to be fulfilled

The safe application of forceps depends on the following condition: (i) Acting uterus, (ii) membranes ruptured, (iii) empty bladder, (iv) empty rectum, (v) os fully dilated, (vi) head engaged by its largest diameter for the particular presentation and (vii) anaesthesia—general or, preferably, local.

Indications

(i) Delay in the second stage, due to: (a) Inferior uterine action, (b) poor bearing-down efforts, (c) abnormal presentations, e.g. persistent occipito-posterior, transverse arrest, face and brow and after-coming head in breech, (d) tight fit—in minor disproportion where mechanical help is needed, and (e) rigid soft parts.

(ii) When the head has been on the perineum for 2 or more hours.

(iii) Foetal distress.

(iv) Prolapsed cord (with fully dilated os).

(v) Maternal distress.

(vi) Maternal disease, e.g. heart disease, tuberculosis, diabetes, etc.

PUBLIC HEALTH PROBLEMS*

D. SINCLAIR-SMITH, M.D., D.P.H., D.T.M. & H., *Medical Officer of Health, East London*

During a recent discussion on the future of Public Health in South Africa at a representative meeting of Medical Officers of Health I was decidedly surprised by a statement from one of the senior members to the effect that eventually environmental sanitation would become the province of the City Engineer, leaving to the Medical Officer of Health only general health supervision as presently exists with water supplies and cleansing services. I was taken aback not only because such a statement, with its profound repercussions on health in this country, should be made but also because of the absence of a strong reaction from the members present. It appeared that there was a general acceptance of the suggestion or at least no marked aversion. Yet if this change did occur, it would represent the demolition of what has always been the main pillar of public health throughout the world and a sphere of endeavour in which much remains to be done in the areas of even the most highly developed health authorities.

SOCIAL MEDICINE

I puzzled over the matter, seeking a reason for this opinion about the future of environmental sanitation, and gradually came to the conclusion that it was associated with the conscious or unconscious development of an appreciation that in this world of welfare states and socialization, public health must expand and keep in concert with modern expectations. Social medicine is coming ever more to the forefront and is demanding increasing attention to man's physical and emotional well-being and less to the mechanics of his environment. In other words there is

developing a far wider concept of Health, with a realization that its ramifications extend into all branches of medicine and, indeed, into practically all aspects of life and living. We should always remember that the constitution of the World Health Organization describes health as a fundamental right of every human being.

What are these fields into which health administration must expand? They are legion, for the social fabric itself has come to be regarded as relevant to the problems of health and disease. Has not Professor Grundy of the University of Wales given the following definition? "Social Medicine is not merely another name for public health or socialized medicine. It embodies a particular research method, an aspect of education for health, and above all a new point of view which often finds expression in the socialized medicine of our day. It is the common meeting-place of preventive and therapeutic medicine, a borderland fringing medicine as a whole, a region where medicine merges with economics, sociology, ethics and the machinery of government. Its approach to medical problems is broad and humanistic, and it has much to contribute to clinical studies. It is a name for the resources—other than medical resources—which can be used to help relieve sickness and mitigate its social consequences".

Surely one of the main demands is a closer integration of curative and preventive medicine. It is the most unfortunate feature of all major revisions in the reorganization and reconstruction of medicine that treatment and prevention have been more or less rigidly separated. The National Health Service in Britain is by and large essentially a curative service. Our own Gluckman health scheme had as its most undesirable imperfection the division of health services into personal and non-personal. The prevention

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