

Remarks  
ON  
"FAILED FORCEPS"\*

BY

J. ERIC STACEY, M.D.LOND., F.R.C.S.ED.

HONORARY ASSISTANT SURGEON, JESSOP HOSPITAL FOR WOMEN,  
SHEFFIELD

In choosing a subject from my special branch of medicine I am guided by certain considerations, one of which is that while we are a body of workers engaged in every branch of medicine, the main bulk of the members of this society are in family practice, in which midwifery looms large as the bane and worry of existence. In addition, there is not one of us but is constantly being confronted with the results of some sequel to a confinement which bears fruit in ill-health and impaired functions of the mind and body. It is a reflection on our progress that the maternal mortality and morbidity rate is but a trifle better now than it was in the days immediately succeeding the introduction of Lister's epoch-making practices. In fact, the Registrar-General's returns for 1929 show a slightly higher rate than any other of the last decade, except that of 1921. This, of course, may in part be accounted for by a better system of notification, and by a better and more scientific description of the cause of the mortality or morbidity in cases which were previously labelled with an inadequate or faulty diagnosis; but, despite any excuses which we may put forward, the distressing fact remains that the risks attendant on child-bearing have not materially diminished by any contribution of medical science during all these years. There is, however, one way in which this doleful picture may be somewhat brightened—namely, by eliminating the cases of failed forceps.

## DEFINITION

I have been asked one or twice exactly what is meant by the term "failed forceps," and I can only say that it is self-defining if we add the words "in midwifery," but I propose to confine my address to an analysis of a series of cases in which an ineffective attempt at delivery had been made with forceps and successfully accomplished later by a similar operation or other manœuvre.

We should, I suppose, include under the heading of "failed forceps" all those cases in which we anticipate that delivery will be effected by the use of forceps and in which we have to remove them for any purpose, possibly to confirm our diagnosis of the presentation, and then proceed on a reapplication to bring about the result we have aimed at from the first. In the majority of such cases we should reflect carefully whether we were wrong in the first place to adopt this method of delivery, or whether our technique was untutored. I propose, however, to omit all these cases, not because they would include a large number in which I have figured as obstetrician, but because my records would be difficult, even impossible, to obtain with any accuracy, and because the term "failed forceps" is one which is now in common usage for cases which I have defined as included in the subject-matter of this paper.

Commissions have been sitting, scientific discussions have taken place, and the public imagination has been roused by the inefficient midwifery service provided in this, and I may say, in all other countries, and to us as medical men little has been brought out more strikingly than the sepsis which follows in the train of forceps application or other obstetric operation. For this, the result of an inadequate service, the general public is largely to blame. Once a student has attained to the

dignity of qualification he is expected to deal with all and every complication of midwifery, many of the cases involving as much skill in diagnosis as the most complicated medical case, or the dexterity in manipulation of a major surgical operation skilfully performed. Of the various obstetrical manœuvres employed none perhaps requires greater knowledge than the application of forceps, if a successful result to both mother and child is to be attained—a knowledge not only of how, but also when, to resort to their use, demanding in all cases a diagnostic capacity and technical dexterity which it is not right and proper to expect from a student taking out his obstetrical practice. One remedy lies in better teaching facilities, both for the undergraduate and for the man in practice.

In 1928 Dr. Douglas Miller of Edinburgh published a series of cases, and in my analysis I have followed very much the lines he adopted in his. The 154 cases reviewed are a consecutive series which occurred in the practice of the Jessop Hospital for Women during the years 1924-28. I have taken no later case because of the review of the remote after-results.

## ETIOLOGY AND ASSOCIATED CONDITIONS

Reviewing now the 154 cases from the etiological point of view, many interesting but certain unhappy facts are brought to light.

*Early Rupture of Membranes*

In 115 cases the membranes ruptured early, and in 88—that is, 77 per cent. (or 57 per cent. of the total), they had been ruptured artificially before the cervix was sufficiently dilated to admit of the passage of a head with a diameter of  $3\frac{1}{4}$  to 4 inches. In the majority of cases this is a regrettable accident or error, and care should be taken to obviate its occurrence.

Many of the cases under review were midwives' cases, in which the doctor was called in after this expedient for accelerating labour had failed, or, in many cases, had had an opposite effect. I am convinced that in a large number of cases of primary uterine inertia and of secondary uterine inertia leading to lingering labour the source of the trouble lies in this practice. It is easy to see how often this potent source of trouble arises. In a large number of cases, particularly in multigravidae, when the patient reaches the second stage of labour with unruptured membranes, they immediately give way spontaneously, or are ruptured artificially; the patient has a few expulsive contractions and the infant is born. If the first time the attendant on the labour sees the patient is when she is in the second stage, and a happy result is brought about rapidly by rupturing the membranes, then it is easy to understand how a series of successful issues may so cloud the judgement that the expedient is tried without due regard to the stage of labour. In many cases where this is done no ill result occurs, even when the patient is only in the first stage, and the faulty manœuvre is employed over and over again, until a case arises where, to the chagrin of the attendant (in 70 per cent. of the cases this is not a doctor) the condition is aggravated.

Most of us have had under our care those trying cases of lingering labour, due to primary uterine inertia, in which no etiological factor is evident beyond this early rupture of the membranes, which may even have happened before labour started—cases in which labour trails on for hours, or even days, with all the accompanying risks to mother and child. Too often are we tempted to hurry on the labour by ill-timed application of forceps. I, personally, am more concerned as to what shall be the *modus operandi* when confronted with this problem than with almost any other difficulty in obstetrics.

\* Lecture given before the Sheffield Medico-Chirurgical Society.

## INCOMPLETE DILATATION OF CERVIX

In exactly 100 cases (66 per cent.) of the 154 cases reviewed the patient had, when the forceps were applied, a cervix which was not adequately dilated to deliver the child. As almost all the cases were at full term, it was extremely unlikely that, even if delivery were effected, it would be accomplished without some damage to the mother, which would be evidenced at the time or later.

The term "full dilatation" needs no explanation, but, when it is realized that in a large number of cases the child's head was badly flexed, then in these cases particularly it was more important for full dilatation to occur, as the normal engaging diameter of the child's head (S.O.B. of  $3\frac{1}{2}$  inches) was often thereby converted into an abnormal one (S.O.F. 4 inches, or even an O.F. of  $4\frac{1}{2}$  inches). This non-dilatation of the cervix was not the sole obstructing cause of failure of delivery in the 100 cases I mention, but was in many instances combined with a faulty presentation, such as occipito-posterior or a contraction of the pelvis, or even all three combined.

However, a further analysis of the cases established that in 47—that is, practically one-third of all those investigated—no other cause accounted for the failure in delivery than an incompletely dilated cervix. The degree of insufficient dilatation varies enormously, from that in which it would almost seem to be impossible to pass the blades of the forceps through the os, up to slight degrees of non-dilatation—for example, where the os has a diameter of less than 4 inches.

While on the question of the undilated cervix may I utter a warning about one of the unpleasant consequences which may ensue from ill-advised efforts to stretch the cervix. We all remember that property of the uterus known as its polarity. By traction on the child's head through an undilated cervix this contraction of the uterus so set up may not be regular and rhythmic as we wish, but may be irregular, and bring about the formation of what is called an internal contraction ring, which is really a localized toxic uterine spasm, often in the form of a circular constriction. This is not to be confounded with a Bandl's ring, and cannot be recognized except by internal examination. Should this occur, then the worst possible thing is for further attempts to be made at delivery, aggravating the already too irritable organ.

I have often been asked whether a cervix which has at one time been dilated can again close down, so that when a second examination is made later there is less dilatation than previously. I can only say I have never seen such a sequence of events, and rather think that the error arises from a failure to recognize the degree of dilatation at the first examination, or else from the incorrect recalling of the state of affairs existing then, compared with the actual condition found at the time of the second examination (possibly because of two different examiners with different nomenclature).

*Contracted Pelvis*

In his analysis Miller found that dystocia from disproportion, due mainly to contraction of the pelvis, accounted for almost a third of his cases. While in my series there were 46 cases (30 per cent.) with contracted pelvis, I do not agree that it was the sole cause of the failure of delivery. In only 21 cases (13 per cent.) was I able to find no other etiological factor than that of the contracted pelvis. In the remaining 25 cases there was always a combination with abnormal presentation (mostly occipito-posterior) or undilated cervix, and in not a few the three conditions were present together. In many cases the head was still found to be freely floating above the brim of the pelvis on the admission of the patient to hospital. I would emphasize once again that it is never

correct to apply forceps to a floating head; very rarely even is the correct procedure adopted where the operation of so-called "high forceps" has to be resorted to at all.

In certain other cases the head was engaging in a satisfactory manner, descent was even proceeding, and had the forceps been withheld a little longer a satisfactory termination would have occurred without their aid. This is conclusively demonstrated by the large number of cases which, in fact, did terminate spontaneously after time was allowed to elapse, following an unsuccessful attempt at forceps delivery.

I do not intend to discuss the varieties of pelvic contraction which offered difficulties, but rather to show that pelvic contraction alone is by no means the commonest cause of failure. Possibly this is the commonest reason given by the unsuccessful obstetrician to explain the cause of failure, and not, perhaps, without good reason, because the force necessary to extract a child through a normal pelvis, where the presentation is posterior or the cervix undilated, is often greater than that required to deliver a child through anything less than the greatest grade of contracted pelvis, and this leads to impaired judgement in defining the cause of failure where much force has been exercised.

*Occipito-Posterior Presentation*

We are now brought to that potent source of failure, occipito-posterior presentation of the vertex. In no fewer than 48 cases (31 per cent.) there was an occipito-posterior presentation which, for the most part, had been unrecognized. In 16 cases occipito-posterior presentation was the sole cause of the failure. I think that the commonest obstetrical condition for which I am called out in the midwifery side of my consulting practice is labour complicated by this condition.

Occipito-posterior presentation is by no means easy to diagnose, and it is often necessary to introduce the whole hand into the vagina in order to arrive at a conclusion as to the exact situation of the occiput. In so many cases the sutures and fontanelles are obscured by a large caput, and the old advice of feeling for the ears is by no means so simple as is often stated, because the ears are often flexed forwards and give rise to much doubt. I can instance more than one case in which I have seen an occipito-anterior presentation converted into a posterior before delivery was attempted. I have done this myself!

*Miscellaneous Factors*

Other conditions which were discovered as the cause of the difficulty include eleven face and brow presentations, three breech presentations, four transverse lies, two cases where tumours were obstructing delivery, and certain abnormalities of the child, such as large child (over 12 lb., three cases), and four hydrocephalic monsters.

## TREATMENT

Coming now to the question of treatment in these cases where difficulty is encountered, we must consider it from two standpoints. First, I will describe the method by which delivery was ultimately effected after a first attempt at delivery had failed, and then outline certain general observations in the conduct of cases where difficulty is likely to occur should forceps be attempted. In other words, I shall rather reverse the usual way of discussing treatment, and leave the question of prophylaxis until I have dealt with the *modus operandi* adopted.

In 33 cases of the 154 (20 per cent.) a spontaneous delivery was brought about by merely waiting, in most cases until the cervix had dilated or an occipito-posterior presentation had rotated itself forwards. This figure, I feel sure, would have been considerably larger had not

the attempts at delivery been prematurely made in many of the cases, and I would particularly refer to those cases where artificial rupture of the membranes had failed to augment the pains and induced inertia. It is strikingly evident that one of the potent causes for the cessation of labour pains is artificial rupture of the membranes during the first stage of labour, and this is made still worse by exhaustion induced in the mother with unsuccessful forceps application, particularly where this has been done without an anaesthetic. Without intervention, quite a number of cases delivered by forceps or craniotomy would have terminated spontaneously except for inertia, for it must be remembered that the thrust of the uterus in a patient with good contractions is infinitely more effective than where this force is lost and delivery is being brought about by traction alone. For one thing, the force is directed more evenly on the whole of the child's body, and is thus distributed to the entire circumference of the presenting part, whereas with forceps there is a less even distribution of force, with consequent less effect on advance, and greater danger to both mother and child.

In 64 cases in all (42 per cent.) forceps were used to bring about the desired result. This includes 25 in which manual rotation of a posterior into an anterior vertex was first of all resorted to. In many cases the forceps had been applied more than once, and often, I might add, more than one attempt was again made before delivery was brought about after admission to hospital.

In these cases it was usually a combination of circumstances that led to failure. Some of them were cases in which forceps was the incorrect line of treatment in any event; I refer to those in which forceps had been applied where the disproportion between the child and the pelvis made it impossible to expect the delivery of a living child; in many of these cases this was complicated still further by posterior presentation or non-dilatation of the cervix. A preliminary accurate diagnosis would have led to the adoption of other methods of treatment. Why, then, were further attempts made unsuccessfully in hospital after a preliminary failure? The reason was determined by other considerations—namely, whether immediate intervention, in the interest of the mother or child, was desirable, and whether the condition of either was such as to forbid Caesarean section.

In many cases there were tears and lacerations of perineum, vagina, and cervix, which precluded any possibility of a section, because of the grave risks to the mother of peritonitis, with its almost invariable fatal issue. In other cases the child's heart was failing, shown by irregularity and slowing, and at times depressed fractures of the skull were palpable vaginally. In these cases we were faced with the alternatives: Caesarean section with the possible delivery of a dying child whose hope of survival was very slight; craniotomy performed on a living child; or forceps delivery with further risk of failure; and, I should also add, an unsatisfactory version. Which method to adopt is indeed a grave decision to make. The operation performed varies with individuals and different units, but in the Jessop Hospital it is uncommon for Caesarean section to be chosen. Even with what is said to be the safer lower uterine segment incision, there are few cases in which the decision to perform Caesarean section is justified either on account of the conditions found on examination or the dire results which would follow its universal adoption. For my own part, I should hesitate to do a craniotomy on a living child (in fact, on only two occasions have I purposely done this, and both of these were foetal monstrosities). What, then, is to be the position where the only alternatives are forceps or version (excluding a few rare cases suitable for pubiotomy or vaginal hysterotomy)?

Version at one time was much more employed than nowadays, for various reasons. Caesarean section is a safer operation than it was when version had its vogue, but in the cases under discussion both are dangerous. However, I think that in those cases where version is likely to meet with success without much danger to mother or child, Caesarean section is equally suitable, less damaging to the mother possibly, and certainly to the child. The result of dragging on a dying child with forceps will generally seal its fate, and certainly endanger the mother. At the same time, a successful result is brought about in a sufficient number of cases to make this, in my opinion, the method of choice, except in those cases where the disproportion is so great as to make it a certainty that even if the child can be delivered at all it will undoubtedly be dead, when I would prefer to take the risk of a lower uterine segment Caesarean section. I know there are others who will disagree with me and argue that where the chances of a living child being delivered by forceps are so trifling as to be almost negligible, it would be better to perforate at once. But where this combination of circumstances exists, the operation of craniotomy, grave at any time, is almost as likely to be succeeded by as serious a result to the mother as is Caesarean section.

I have already referred to the 25 cases in which forceps delivery was effected after manual rotation of an occipito-posterior presentation. In most of these cases the cause of slipping of the blades had been due to this posterior presentation alone. In a few cases the condition was complicated by pelvis contraction, and in others by an undilated cervix, but in the majority of cases a diagnosis had not been made of the posterior presentation, and usually after manual rotation, which was not always easy, the subsequent delivery became simplicity itself. Many of these cases would have spontaneously rotated forwards if enough time had been allowed, but a new complication of inertia had been induced by premature attempts to terminate the labour.

Delivery was effected in 38 cases (25 per cent.) by craniotomy, and to this might be added three cases of decapitation, where forceps had been applied to a transverse lie. In not all of these cases was it necessary to resort to craniotomy on account of disproportion between child and pelvis, as this would embrace nearly the whole number in the series in which the pelvis was contracted (46). This method of delivery, however, was chosen in many cases to bring about the delivery of an already dead child where, for example, the cervix was not sufficiently dilated to transmit the child, and expediency was urgent on account of the mother's condition.

In certain cases a reduction in the size of the child will cause less ultimate serious damage to the mother than by waiting for full dilatation of the cervix, or by a difficult high forceps delivery. I refer to cases where on account of risk of sepsis Caesarean section is precluded and the cervix is undilatable or where pelvic contraction is too great for a normal child to pass. In only nine cases was Caesarean section resorted to, four of these being by the lower segment route; four mothers died, four became septic, and two children died (two of the septic mothers were cases of lower segment incision). This is an indictment against this method of delivery after failed forceps, except in a very few cases.

Beyond a few immediate remarks, I would prefer to leave the question of prophylaxis until the general summing-up, particularly under the heading of ante-natal care. In eleven only of all the cases had ante-natal examination been made prior to the delivery; this number included two in which previous Caesarean sections had been performed for contracted pelvis, and one where

labour was obstructed by a large tumour, which only goes to show that where ante-natal examination has been made with a view to guidance in the subsequent delivery, the information obtained should be acted on. I will refer to this more fully again.

#### THE END-RESULTS

The immediate results in this class of case indicate an alarming mortality, both maternal and infantile. There was a tragic number of maternal deaths, an even larger number among infants, and such a morbidity rate as can hardly, I think, be presented by any other series of cases included under the heading of childbirth.

Twenty-one mothers died in the hospital (14 per cent.) ; two of these were undelivered, and three others must be added to this figure as having died in other institutions as an immediate result of the serious confinement. Of the 130 remaining cases, no fewer than 33 (25 per cent.) were morbid according to the B.M.A. standard, and 19 others were notifiable as pyrexial. If the fatal cases are added to the morbid and pyrexial we obtain a figure of 76, leaving only 78 which could be said in any way to pursue an uninterrupted puerperium. If from this 50 per cent. of the cases which apparently presented no grave termination immediately be deducted all those in which there was ill-health in mind and body in after years, we are left with a startlingly small figure to represent the women who had a confinement and suffered no detriment to their health as a result of it.

No fewer than 43 (29 per cent.) of all the infants were already dead before the patient was admitted to hospital. Seventy-nine of the infants were stillborn, and five died in the first few days (two were undelivered), thus leaving only 66—that is, 48 per cent.—who left the hospital alive.

I followed up the after-history of almost all of the mothers. It would be illuminating to know how many of the infants survived the first year of life, how many died subsequently, and how many show permanent impairment of function as a result of their stormy passage into this world. Not a few, where I was able to obtain information, still have gross lesions, such as depressed fractures and paralysis of the face or limbs, but if cerebral haemorrhages occur with such obvious evidence, there must also, I should imagine, be a group in which the damage occurred not in the pre-Rolandic area or communicating motor tracts, but in the silent areas of the brain and its association tracts.

From what has been said under immediate results, it follows that one has to be very guarded in the prognosis of either mother or child after the delivery has been executed, following a previous attempt in which forceps have been unsuccessful.

The puerperium was apt to be stormy, and often many weeks of ill-health were endured by the patient before discharge from hospital was possible. On returning home, large numbers of others required a long period of convalescence before being restored to anything like a semblance of their previous health, if, indeed, that were ever regained. Most patients suffered at least some damage—from varying degrees of ruptured perineum, vagina, or cervix, to the grossest examples of trauma involving the lower uterine segment, bladder, or rectum, leaving in their train vesico-vaginal and recto-vaginal fistulae, necessitating, later on, tedious, and often unsuccessful, operations.

I have followed out the end-results of all except fifteen of those patients who survived. I sent out a questionnaire to all who left hospital alive, and have received replies from the majority. Of these latter, I have examined practically every one with any complaint, and a large number of those who said they were well. Certain of those who said they had suffered in health showed on

examination no pelvic lesion, but they were very few. Others, on the other hand, who said they were perfectly well, revealed pelvic disabilities, the extent of which makes it almost impossible to believe that life was not a burden. I have been struck forcibly during this investigation, years after patients have sustained serious damage, by the fortitude with which so many of them face, almost uncomplainingly, what would be to us crippling disabilities, apparently accepting the detriment to health as the normal consequence of child-bearing. In fact, I am sure that they must think that the curse of Eve does not refer to the labour alone, but is meant to continue throughout life.

In 54 cases of those followed up and traced the patient volunteered the information that she was perfectly well in health, and no ill effect was discovered. The remaining 58 all showed some local evidence of damage sustained at the confinement, and three have subsequently died of conditions not associated with the pregnancy. The injuries discovered were variable in character, but by far the largest group was made up of those women who had some degree of laceration of the cervix with ectropion of the mucous membrane, often associated with some vaginal prolapse and subinvolution of the uterus. This would appear to be the commonest sequel of disability. The laceration of the cervix, of course, is easy to understand, as also apparently the prolapse, but I am not perfectly certain that the prolapse is necessarily the result so much of stretching or tearing of the paracolpus, with its attachments, as a failure of the vagina to involute, due, possibly, to a septic state supervening on the delivery. Immediately after delivery the vagina is always lax, just as the uterus is always enlarged, and, to me, it would appear that any process deterring the involution of one organ will likewise leave the other in its subinvolved condition. The vast majority of those cases in which vaginal prolapse was present had also some failure of involution persisting in the uterus, not only immediately or in the first few weeks after delivery, but months and years later.

Were we to carry out an investigation into the after-results of damage caused at a confinement, and particularly of sepsis, when many years have intervened, I am sure we should find that even a greater number of these women had suffered ill-health than would appear from an investigation into the after-results where the period of elapse had only been at most six years and shows 52 per cent. with some degree of ill-health. Possibly as a late result, those who had only slight injuries, or mild traces of infection immediately succeeding the labour, would evidence greater degrees of disability than those cases in which trauma or sepsis had been serious, because where serious injury has taken place the patients are usually looked after carefully during the puerperium and succeeding months until they have been restored to some semblance of good health. Gross tears of the vulva, vagina, and often of the cervix are repaired at once as a rule, and though many take a long time to heal, the patients remain under medical supervision and further operative procedures are adopted where necessary. Consider, for example, the woman with a vesico-vaginal fistula due to immediate damage or sloughing in the first few days. In those cases which do not heal spontaneously, as so many of them do, an operation is usually performed within a reasonable time, and, if unsuccessful, is repeated until the patient is cured of the disability. Most women with a complete rupture of the perineum have it sutured at the time, and if healing does not take place further operation is usually advised, and thus the patient is cured of her incontinence.

Likewise, the patient who has a very severe form of puerperal infection is treated continuously until well on

the road to recovery. Complications arising during such a stage of convalescence—for example, parametritis—are recognized and treated appropriately. It is regrettable that patients who sustain slight grades of trauma, such as small vaginal lacerations, trifling tears in the cervix, and minor degrees of sepsis, pass at times unrecognized into the large group which might be labelled "the invalid woman." It is almost as important to repair those small traumatic lesions as the grosser forms, since the latter will usually be treated before permanent ill-health and impairment of function have occurred. Many of the cases of sepsis, however, arise in those women who have only a minor degree of trauma, and often such sepsis would have been averted had the damage been recognized and repaired. A large group of women sustain at confinement a minor degree of sepsis which is overlooked. It is difficult at times to know how this can be obviated. The patient after a difficult confinement, such as occurs in almost all these cases of unsuccessful forceps, will naturally be more ill than her more fortunate sister who had a normal confinement, but beyond the fact that she may be kept in bed rather longer than usual, often nothing further is done to aid her recovery. The slight sepsis about which I am now talking occurs in those cases in which the temperature during the puerperium shows but little rise above normal. The attendant on a case of complicated labour perhaps sees the patient rather more frequently than usual during the first few days, is gratified to find that no serious sepsis has occurred, and the morning temperature which is taken in these cases will often show no rise above 98.4°, so that after the first few days daily records are no longer kept. It should be borne in mind that the temperature should be subnormal during the early days of the puerperium. These very patients, who only have an occasional rise in the evening temperature (pointing to a certain amount of sepsis, such as decidual endometritis), often fall into the category of those who fail to involute the organs normally and give no indication of this puerperal septic state until years later, when the subinvolved organs cause trouble and stimulate a search for the origin of it.

One almost constant sign, pointing to a failure of involution of the uterus, is a persistence of the lochia beyond the normal period of ten days to a fortnight. In fact, so common is this that I am tempted to think that most women, even among the educated classes, are under the impression that loss should go on from six to eight weeks after delivery. We all know that this is not so if the uterus is involuting normally. The lochia, which may have diminished or ceased by the tenth day, are not commented on by the patient, who, beyond being a little pale and wan, as she expects, is thought to be recovering from the stormy labour and gets up. The same day, or the next day, loss again appears, and often goes on for days and weeks. This, I maintain, is the most constant sign of failure of involution of the uterus, and concurrently there is failure of involution of the supports of the uterus and vagina. One can see, then, how easy it is for vaginal prolapse and retroversion of the uterus to occur, and in a not inconsiderable number of the 60 to 70 patients whom I have examined from one to six years after the confinement in the series under consideration these conditions are present. A tenth-day examination of the patient vaginally, or one made before the patient is entirely discharged, would often have revealed this state of affairs, which could have been often remedied with appropriate treatment, though it hardly comes within the scope of this paper to discuss what that should be.

Other evidence of pelvic infection which I have found beyond this chronic subinvolution was such conditions as salpingo-oöphoritis, retroversion, and impaired mobility

of the uterus, due to parametritis or pelvic peritonitis. I would like to say here that pelvic parametritis is a far commoner condition than is generally supposed. We all recognize the large effusion which spreads into the iliac fossa and on the abdominal wall like a "tea cake," but minor grades of the condition are much more frequently met with than I, at any rate, at one time imagined. The end-result of such cases of parametritis where suppuration does not generally occur, is scar tissue formation, which leads to fixity of the pelvic organs and distortion of the broad ligaments, with a blood circulation in the pelvis considerably impaired. Over and over again have I seen the train of ill-health associated with pelvic congestion and varicocele of the broad ligament follow scarring in the broad ligament, due to imperfect resolution of a pelvic parametritis arising in a case of sepsis, unrecognized because mild.

To proceed now with the sequels induced by this often too hasty attempt to precipitate what Nature meant to be a physiological process, we must consider the effect on future pregnancies and potentiality of child-bearing. Of those women in the 130 cases (154, less those who have died) whose after-histories I have followed, 37 have become subsequently pregnant. This figure includes four who are now pregnant, and three whose pregnancies terminated in abortion, while, for the rest, one or two have become pregnant on more than one occasion. Forty-one living infants have been born to them. When we take into account the fact that 82—that is, more than half the cases reviewed—were primigravidae when their serious confinement occurred, it follows that a considerable degree of sterility was the direct result of the labour.

#### PROPHYLAXIS

I have now recounted the etiology, treatment, and end-results of this series of cases of failed forceps, and, before closing, I would like to say a few words on how such a state of affairs can at least be improved, if not remedied. In the section devoted to treatment, most of what I said referred to the treatment adopted where the forceps had been unsuccessfully applied in the first place and the issue often determined before further treatment was instituted. I have deferred the discussion on prophylaxis, as the two factors involved were so different; in one case treatment had already begun and had to be proceeded with, while the procedure adopted would have frequently been so different in the other case, in which forceps application must have inevitably failed, and would therefore not have been resorted to had prophylactic measures been taken.

#### Ante-Natal Care

Ante-natal supervision undoubtedly would go far to prevent many of these cases of failed forceps, but certainly not all. So much has recently been said and written about the Utopia we are going to reach in midwifery by the establishment of a sufficient number of ante-natal clinics that the general public is becoming lulled into thinking that because a woman has attended an ante-natal clinic she is as good as delivered. In the first place, I would like to utter a mild word of warning against the use of the word "clinic."

The person who should carry out the ante-natal supervision of the pregnant woman is undoubtedly he who is going to see her through the confinement to the end of the puerperium. If the idea that a patient must attend a special clinic spreads too far, I feel sure that large numbers of pregnant women will not attend at all for ante-natal examinations, as they naturally resent what seems to them mass treatment, and many a patient who would put herself during pregnancy under the care of her

own medical attendant will be precluded from any supervision at all. I cannot too strongly urge that every doctor should fit himself for being an ante-natal clinician.

Too often, also, these clinics are supervised by public health officials with very little clinical experience, or by persons who never conduct a confinement at any time. Do not think that I am depreciating too harshly the good work done by many of these centres, as undoubtedly they have their place in the welfare of the community, but I consider they should be more in the nature of consulting clinics to which any medical man can refer his cases after he has made a preliminary ante-natal examination which he wishes amplified, or where he wishes for advice in the conduct of the labour. Each of these centres should have adequate facilities for the confinement of those women whose housing conditions are unsuitable or where the medical aspect of the case demands suitable convenience for major operations, and patients should be under the care or direction of the same person from start to finish.

If adequate ante-natal supervision was provided, I believe that a large number of these cases of failed forceps would disappear. But the keynote of success is the word "adequate." I have just said who, in my opinion, should exercise that supervision—the medical attendant who is to conduct the labour, guided, if need be, by advice from a consulting centre. Unless, however, the information gained at the preliminary examinations is acted on, then no reduction in the number of cases of failed forceps can be expected by ante-natal supervision. With this proviso, I think all will agree that most of those cases of failure could have been prevented where the etiological

factors were dystocia due to disproportion, or tumours obstructing labour, or faulty presentations.

There remains, however, the group where failure to effect delivery was not the result of any condition present at the beginning of labour, and could not, therefore, have been prevented by ante-natal care—those 47 cases, for example, where an undilated cervix was responsible for the non-success. That many of these misfortunes should not have happened must be conceded. In some, the state of dilatation of the cervix had not been recognized, and possibly better teaching facilities will get over that to some extent—for example, when a student's three months' obstetrical practice is replaced by a six months' course.

In others of this group the fault often lay in a humanitarian desire on the part of the obstetrician to get a painful physiological process over as rapidly as possible. I am not saying this in a spirit of criticism, as I know how much greater are the difficulties under which the practitioner works than the consultant, and the consultant, too, is unduly influenced at times by this consideration to adopt measures which his considered judgement tells him are unwise. I hardly see how occasional mistakes of judgement can be prevented in this way, unless all patients are removed from the sphere of family influence, and better anodynes for use in labour are discovered.

I close with words of advice from the great Sydenham, about whom it was said that, when in doubt, he consulted his own reputation and the patient's safety by doing nothing, and it is certain that of all the aids we possess in the safe delivery of woman in labour, none is of greater value than the practice of the art of patience.

## THE TREATMENT OF SECONDARY HAEMORRHAGE AFTER SUPRAPUBIC PROSTATECTOMY

BY

ANDREW FULLERTON, C.B., C.M.G., M.Ch.,  
F.R.C.S.I.

PROFESSOR OF SURGERY, QUEEN'S UNIVERSITY, BELFAST

Primary haemorrhage after prostatectomy can be easily and safely controlled by the various methods in vogue for arresting haemorrhage during and after this operation. The operation of Thomson-Walker, in which bleeding vessels are secured by ligature and oozing stopped by packing the prostatic cavity, and, as an alternative, the use of the haemostatic bag, are certain preventives. Secondary haemorrhage, however, is not so easily dealt with as primary, on account of the narrowing of the suprapubic wound, which takes place rapidly after the drainage tube has been removed. Those who have attempted packing the cavity in these circumstances will agree with me that it is a very difficult procedure involving a great deal of pain to the patient and trouble for the surgeon; besides, it may fail to accomplish its object unless an anaesthetic is administered and the suprapubic wound widely opened up.

For some time past I have been using a haemostatic rubber bag (see Fig. 5) which differs from the Pilcher bag in being spherical instead of pear-shaped. One objection to Pilcher's bag is that it enters the membranous urethra and stretches the compressor urethrae muscle, causing temporary or permanent incontinence. The improved bag, being spherical in shape, can be made to fit accurately into the prostatic cavity, and cannot enter the membranous urethra. It was first made for me by Messrs. Mayer and Phelps, and has stood the test of many

trials in the prevention and treatment of primary and secondary haemorrhage.

I need not enter now into the preventive treatment of secondary haemorrhage after prostatectomy, which is due to sepsis and sloughing, and may take place from any of the raw surfaces left after operation, particularly from the margins of the mucous membrane at the entrance to the prostatic cavity and from the cavity itself. Rigorous aseptic technique during and after operation will, no doubt, lessen its incidence, but a wound communicating with the surface easily becomes contaminated, and an aseptic course is impossible. Efforts will, of course, be made to render the raw surfaces as clean as possible, but, notwithstanding all precautions, secondary haemorrhage will occur in a certain proportion of cases. During the years I have been in practice I have had cases occurring from time to time, and in the last few months I have had two: one commencing on the thirteenth day and one on the fifteenth. Both patients were poor risks, and quite unsuitable for any prolonged procedure, either at the primary operation or subsequently. In both the haemorrhage was immediately arrested with very little discomfort by the method I am about to describe, and both have made good recoveries.

It is better to anticipate trouble in these cases by inserting the bag at the very first appearance of haemorrhage, before the bladder has had time to fill with clots, and before much blood, that can ill be spared, has been lost. There are generally several prodromal attacks of slight haemorrhage before the ultimate burst appears. It is well to be forearmed.

### METHOD OF ARRESTING SECONDARY HAEMORRHAGE

A catheter is first passed into the bladder—a soft rubber by preference—but if this does not enter easily a gum elastic may be used. Through the suprapubic wound a