BREECH PRESENTATIONS IN GENERAL PRACTICE.

By W. H. F. OXLEY, F.C.O.G.

Hon. Visiting Obstetrician, East End Maternity Hospital.

It was an idea of the Ancients that in all pregnancies the foetus originally presents by the breech and turns to vertex shortly before term. Modern ante-natal examination tells us that they were partly right, for we find that about the seventh month of pregnancy nearly one foetus out of ten presents by the breech, and that a large proportion of these spontaneously turn to vertex during the last two months, thus reducing the number which begin labour as breech to about 5 per cent.

Owing to their high foetal mortality all breech labours should be regarded as abnormal, and the result to the child should be taken as the criterion of success or failure in their management. Most text books give the number of stillbirths and neo-natal deaths as about 10 per cent., but Gibberd, who compiled the returns from six maternity hospitals, found that as many as 30 per cent. were stillborn, and a further 9 per cent. died before the sixteenth day. Although in some cases the foetus was dead before labour began, and many were tiny premature infants, whose deaths could not be attributed to the breech presentation, in most of them death was due to delay in delivery, or to injuries received during birth. No doubt many experienced practitioners obtain better results than these, as in the hospitals from which the figures were obtained deliveries are attended by junior members of the staff, who have still to gain their experience; but probably only a few get a combined stillbirth and neo-natal death rate as low in breech as in vertex presentations. That it can be done has been shown by Potter of Buffalo. His routine practice is to turn vertex presentations to breech as soon as the os is fully dilated, and to deliver them by manual extraction, thus, as he says, "wiping out the second stage," and he has reported a large series of cases with a foetal and neo-natal death rate of 8 per cent., or, if the macerated and small premature infants are deducted, as low as 2 per cent. His practice has many disadvantages; I mention it merely to show that breech labours can be conducted without grave danger to the child. Some hospitals in this country where experienced men are responsible for the deliveries get equally good results with their genuine breech cases.

The special danger to the foetus arises from the fact that its breech can pass through a cervix and vulva which are not sufficiently dilated to allow a quick and easy passage to the larger shoulders and head, and that during the time the two latter are being born the umbilical vessels are occluded. The attendant is thus faced with the dilemma that if he delays delivery too long the foetus will die from asphyxia, if on the other hand, he delivers the head too hurriedly through a canal that is too small for it, the sudden distortion may cause fatal intracranial injuries. According to Eardley Holland, the latter is the greater danger.

In most multiparæ the child is born alive with a modicum of skill on the part of the attendant, but in primigravidæ, especially if the foetus is a tight fit or if its legs are extended alongside its body, the difficulty in the way of successful delivery is so great as to tax the dexterity of the most accomplished obstetrician. Even he will feel a thrill of satisfaction when he hears the first cry of the breech baby. In order to avoid these special dangers it is advised by most obstetricians that breech presentations should be turned into vertex during pregnancy. This practice would be ideal could all be turned, but they cannot, for the reports of the hospitals at which version is most strongly advocated and practised show every

year a long list of breech deliveries, representing the cases which have not been diagnosed as breech during pregnancy, those in which attempts to turn have failed, and those which have spontaneously turned to breech at the last moment. However, since large experience is needed to gain a skill like Potter's, there is little doubt that men who do only a few cases a year would be wise to turn all they can. We must therefore discuss in this paper the diagnosis of breech presentation during pregnancy, the technique of external cephalic version, and the management of those cases which come into labour as breech.

The Diagnosis of Breech Presentation during Pregnancy.

The simplest way of diagnosing a breech presentation is by ballotting the rounded head in the fundus of the uterus, and therefore pregnant women should be examined before the increasing size of the foetus interferes with its mobility, that is to say, as early as possible after the 28th week of pregnancy. The patient should lie on her back, and it is more satisfactory to have the legs down rather than drawn up. The abdominal walls must be well relaxed, and this can be best obtained by distracting the patient's attention; great care must be taken to avoid irritating the uterine muscle by cold hands or rough manipulation. The foetal head is usually found to one side of the fundus rather than in midline. From it the curved back can be traced down to the irregular breech, which is situated above the pubes, and the diagnosis should be confirmed by auscultation, when the foetal heart will be heard with maximum intensity above the umbilicus. A large number of cases are missed because the investigation is left until the foetus is getting too cramped in its quarters to be moved; diagnosis by palpation is difficult in primigravidae with tight abdominal walls and in fat patients; it is often impossible if the legs of the foetus are extended, as the feet push the arms up in front of the head and prevent its free movement upon the trunk. An error of a different kind is to mistake a vertex presentation with the head low in the pelvis for a breech; and I have known this mistake lead to attempts at version being made, happily without success. In all cases where the practitioner has doubt as to the diagnosis a vaginal or bimanual examination should be made, possibly under an anæsthetic, or, if feasible, an X-ray photograph may be taken. The aim should be to allow no case to come into labour without the presentation having been ascertained.

External Cephalic Version.

The attempt to turn should be made as soon as the breech presentation is diagnosed, for although the new presentation may not be stable and the breech may recur if version is performed before the 30th week, some will remain, whereas if they are left until later the optimum time may be missed, as turning becomes more difficult as the foetus increases in size. Whenever version is performed the case should be examined again in a week in order to see that the foetus has remained in its new presentation. Refusal of a foetus to remain as a breech often implies a contracted pelvis.

The manipulation is performed as follows:—

1. The patient lies on her back with the operator standing at her right side facing her feet.
2. Locate the head and then the back. This is necessary as the foetus should be turned over upon its face in order to increase the flexion of both the head and the trunk. If the head is found to the right of the middle line the back will be to the left, and *vice versa*.

3. Find out whether the breech is above the pelvic brim. If it is in the pelvis it must be lifted out by tucking the fingers underneath it. In a few cases it is necessary to raise the foot of the bed or place the patient in the Trendelenburg position.
4. Apply pressure in a downward direction to the back of the head with the thumbs, working it gradually down into the flank. Keep it there with one hand and with the other raise the breech, thus bringing the foetus into a transverse lie.
5. A smart push down on the head and up on the breech simultaneously, and the foetus pops round into a vertex presentation.
6. The uterus is straightened out, the head pushed into the brim, and a tight binder applied.

Turning is difficult if left too late, and is seldom possible at full term or if labour has begun. If the legs of the foetus are extended it is extremely difficult to turn, even if the breech presentation has been diagnosed, as the legs alongside the body prevent full flexion, and the uterus resists the distortion necessary to get the unflexed foetus transversely across it. The easy ones are those in which the back of the foetus is towards one or other side of the mother; if its back is towards the mother's back turning is always difficult. A twin cannot be turned. It is said that vigorous efforts may detach a portion of the placenta, so causing accidental hæmorrhage; they probably do, but vigorous efforts are not made by an experienced obstetrician, as they defeat their object by causing contraction of the uterus. Nevertheless, if there is a history of previous hæmorrhage, version should not be attempted. After having had one good try, it is well to desist, and try again in a week's time. If a uterus is found to be unduly irritable an anæsthetic may be given.

Note.—Remember that although laxity of the abdominal walls may cause a breech presentation in a multipara, in a primigravida it is most often due to flattening of the pelvis, so be careful after turning to gauge the relative size of head and pelvis at frequent intervals during the remainder of pregnancy.

One of the disadvantages of a persistent breech is the difficulty in determining the relative size of head and pelvis, and this is all the more important because of the slight flattening of the pelvis which is often present. Would that we had the skill of our fathers, who used to treat cases of flat pelvis by podalic version. Since we have not, it would be wise for general practitioners to consult obstetric specialists in persistent breech cases where the foetus appears to be over the average size, as a timely induction or Cæsarean Section at term will avoid many stillbirths.

Enough has been said to show that turning is not a panacea for breech presentation; it cannot be completely sidetracked; those cases that remain unturned are often the difficult ones to deliver, and those which are turned would very likely have had an easy labour or have turned themselves.

The Management of Breech Labour.

The principles to be acted upon in breech labour are to obtain complete dilatation of the cervix and as much stretching of the perineum as possible before the shoulders and head are born, and to maintain the flexed attitude of the foetus. Therefore, the membranes must be kept intact as long as possible, the breech should pass slowly through the outlet, and in ordinary cases the foetus should not

be pulled upon. The legs should not be brought down, as doing so reduces the size of the breech. The temptation to hurry delivery must be firmly resisted until, as we tell our pupils, they can see what is the sex of the child.

In normal multiparæ with good pains, if these principles are adhered to, the mother encouraged to bear down when the breech is born, and the uterus followed down with firm pressure by the left hand, the rest of the foetus literally "tumbles out." In normal primiparæ there is usually some delay owing to the resistance of the soft parts. Still, nothing should be done until the breech is born unless progress is entirely arrested, when extraction as described below will be needed. When the breech is born, the trunk follows quickly as far as the umbilicus. The next pain, aided by pressure over the pubes, forces out the shoulders and the folded arms. The birth of the head must be accomplished deliberately, yet without loss of time. It can be helped out by taking the child a-straddle of the right forearm and putting the forefinger in the mouth, at the same time applying suprapubic pressure in the axis of the brim of the pelvis with the left hand, and when the nape of the neck is born, but not before, drawing the body of the child gently upwards and forwards over the mother's abdomen.

Difficult Breech Labour.

From a practical point of view difficulty in the delivery of a breech is due to one of three causes.

1. The child is too tight a fit either because the pelvis is small or deformed, or the child too large; or both.
2. The legs are extended.
3. Bad midwifery, such as too early attempts at extraction, pulling on the child, or unintelligent manipulations.

It is always taught that a badly contracted pelvis prevents the breech entering the brim, and no doubt it does, but these cases must form an infinitesimal portion of the whole, at any rate in the East End of London, for in an experience over many tens of thousands of confinements I have never seen one. In such cases the contraction should have been diagnosed ante-natally and treatment by induction or Cæsarean Section been performed. On the other hand, cases that frequently cause difficulty are those in which the child is of good size and the pelvis perhaps slightly under the normal, but without any measurable diminution in its diameters. It is just a tight fit. These cases are met with in primigravidæ, and fairly often in elderly multiparæ who have up to the present had easy labours and in which difficulty is consequently not anticipated. The course of labour is slow, often the membranes rupture early or are ruptured during a vaginal examination in trying to diagnose the presenting part, the breech descends slowly, a caput forms, the mother becomes exhausted and further progress stops with the breech in the cavity of the pelvis. The treatment in the first stage is exactly as in a prolonged vertex presentation; rest, food, attention to rectum and bladder, and sedatives if required. Eventually extraction will be needed, but should never be attempted until full dilatation of the os, nor delayed until the patient is exhausted. One always feels that cases such as these should have been avoided by terminating pregnancy a week or two before term, but as stated above, it is very difficult to gauge the relative size of foetus and pelvis in breech cases. The more one practises estimating the weight of the foetus before it is born the greater success one will attain.

Extended legs. In about a half or a third of all breech presentations the knees of the foetus, instead of being flexed, are extended, so that the legs lie along the front of the abdomen and thorax. The feet reach to about the level of the clavicles and displace the arms from their folded attitude upon the chest, so that the hands lie in front of the face, and there is a tendency for them to become completely extended during delivery. This attitude interferes with diagnosis and with version, and is by far the commonest cause of difficulty in delivery and of stillbirth. It cannot be prevented.

Labour goes on normally until the buttocks just begin to peep through the vulval orifice during the pains, and then progress is delayed. In most multiparæ and in premature labours spontaneous delivery eventually takes place, and in these easy cases it is good practice to insert a finger into one or both groins and pull the breech out during a pain with the legs extended. In most primiparæ and in tight cases all progress stops.

Obstetricians are not agreed on the correct treatment of cases with extended legs; some advise that they be left until arrest takes place and that one or both legs should then be brought down, others that the legs should be brought down as soon as the condition is diagnosed, even though the os is not fully dilated. There are serious objections to both methods: to the first, because in a tight case there is not room to put the hand into the vagina when it is already occupied by the breech and thighs of the foetus; to the second, because the size of the breech is reduced by bringing down a leg, and consequently the cervix is not completely dilated by it. Both these drawbacks will be avoided and the best results will be obtained if extraction as soon as the os is fully dilated is adopted as a routine practice; although the small ones quickly drop to the floor of the pelvis on full dilatation and deliver themselves before there is time to get the patient under an anæsthetic, the tight ones are caught before they become impacted, which is the important thing. Further, the experience obtained in extracting comparatively easy cases will stand him in good stead when the doctor is confronted with a really difficult one.

Extraction of the Foetus in Breech Cases.

The two principal indications for extraction of the foetus have already been mentioned; they are (*a*) the tight fit and, (*b*) extension of the legs. Other reasons are maternal illness or exhaustion, foetal distress, and abnormalities due to faulty midwifery, such as extended arms, extended head, and posterior positions of the head. Extraction must never be attempted until the os is fully dilated; in premature labours in which the small breech has slipped through a partly dilated os and the ring of cervix prevents the passage of the head, the foetus should be left to die, as attempts to haul it out are very likely to result in serious injury to the lower uterine segment. The correct treatment for these cases is to apply a tight binder and give a small dose of pituitary extract. If the need for extraction is foreseen a second doctor to give an anæsthetic and a midwife to act as assistant should be obtained. More skill is needed for a difficult breech extraction than for almost any other operation in the realm of obstetrics or surgery, and therefore the technique should be carefully studied and practised whenever possible until it can be done methodically and without flurry. Plenty of time should be allowed for the preliminary steps; even after the birth of the umbilicus there is still at least five minutes for the extraction of the shoulders and head, which is plenty, provided the doctor knows what he has to do. It is almost impossible to

perform extraction successfully if the patient is lying on a sagging mattress. If a firm bed or table is unavailable she should be placed on her back across the side of the bed.

The technique of extraction in a case of extended legs as described below covers the difficulties which may be met with in the delivery of the shoulders and head.

1. The patient is fully anæsthetised.
2. Meantime the forceps are boiled and placed ready to hand, and a hot bath prepared for resuscitating the child.
3. The vagina is thoroughly stretched and smoothed by the well lubricated right hand until the closed fist can be withdrawn easily through the vulva, a process taking about five minutes in a primi-gravida. If the perineum is unduly tight a central episiotomy down to the sphincter is performed. This is seldom necessary in a multipara.
4. The right hand is slowly insinuated into the uterus and while this is being done the last edge of the cervix, which can usually be felt although the breech may have passed through, will gradually disappear.
5. The legs are located and whichever is handiest is brought down by abducting the thigh and putting a finger over the shin. The knee is bent, the ankle is held between the first and second fingers and brought outside the vulva. The second leg is brought down in a similar way. If the first leg proves obstinate try the other. Take care not to bring down a loop of cord between the legs.
6. The breech and trunk are now expelled by pressure upon the fundus exercised by the assistant, aided by gentle pulling upon the thighs by the doctor. During its expulsion the child's back is kept, or guided if necessary, sideways to the mother in order to keep the shoulders antero-posterior, and towards the end of its expulsion the trunk is drawn forwards between the mother's legs.
7. The latter movement brings into view the wing of the posterior scapula. The fundal pressure is now stopped, and the doctor feels for the arms with the right hand. Their usual attitude is with the shoulder joints partly extended and the elbows flexed, so that they can easily be brought down one at a time by hooking the index finger into the elbow. The posterior is usually brought down first; if it is difficult, try the anterior.
8. As soon as the shoulders are delivered the child's back is turned to the mother's front. No force beyond the very gentlest is used or the child's neck will be twisted. If it cannot be turned easily leave it for the present.
9. *The delivery of the head.*—It is here that the great value of the assistant is seen. As the shoulders are born the head is just entering the brim, but the bi-parietal diameter has not yet passed through the conjugate. It is pushed through by the assistant, who locates the

vertex and makes firm supra-pubic pressure upon it in the axis of the brim. Meanwhile the fœtus is held a-straddle of the doctor's right forearm, and in order to maintain flexion of the head he puts his left forefinger into the child's mouth and gently keeps it down. If the child's back has not been turned to the mother's front the occiput may not rotate forward as the head comes down. In this case the doctor rotates it by holding the face between the fingers and thumb. but this very seldom happens. Jaw and shoulder traction may be used to bring the head through the vulva, but the pull on the neck which is necessary to deliver a tight head in this way is the cause of many stillbirths, and so the forceps should be used, unless it comes quite easily. Forceps to the after-coming head can be applied without difficulty after it has been pushed through the brim, provided the body is correctly held by the assistant. For the insertion of the left or lower blade the body should be held right forward, it should be drawn back over the perineum for the insertion of the upper blade, to lock the handles and during extraction it is again held well forward.

10. When the child is born the doctor holds it by the heels to drain while he carries it to the hot bath, in which it is placed until it breathes. Remember that it is under chloroform and will not breathe at once. It will be all right if the heart is beating and the delivery has been effected with gentleness. The assistant guards the uterus; this is necessary as the placenta separates during or immediately after the birth of a child, and since the patient is under chloroform there is danger of post-partum hæmorrhage.

Difficulties caused by bad midwifery.

Extended arms.—Full extension of the arms above the head is caused by rough pulling, or by pulling in the absence of pressure from above. To treat the condition two fingers must be passed along the posterior axillary fold of the posterior arm until they reach the elbow, when the fingers, splinting the humerus, bring it down so that the hand sweeps the face. It is usually easier to bring down the posterior arm first, but there is no reason why the anterior should not be brought first, if it seems more handy. Very occasionally it is found that after bringing down the posterior arm the anterior cannot be dealt with. If so, turn the whole child through half a circle, thus bringing the anterior arm posterior, when it can be easily brought down in the hollow of the sacrum. If resistance to this movement is experienced it is due to the head being wedged in the pelvis, and the shoulders must be pushed up to free it.

Dorsal displacement of the arm is extremely rare, and is due to unnecessary rotation of the child's body. It completely obstructs delivery. The arm cannot be untwisted from behind the neck—it is a fixture—so the body of the child must be untwisted from the arm by rotating it in the direction in which the hand is lying.

Extension of the head never happens unless there has been forceful pulling. Its treatment depends upon whether the occiput is anterior or posterior. If the former, the chloroform should be pushed to relax the uterus and flexion made by hand. If the latter, the chin will be over the

symphysis and it is difficult to disengage it. The head is therefore delivered with forceps in its extended position, as if it were an inverted face. Draw the body forward over the patient's abdomen, apply forceps over the lowest part, the occiput, and deliver by bringing the forceps towards the abdomen. By this method the vertex is swept through the hollow of the sacrum and the chin remains, as it were a fulcrum, over the symphysis until the occiput has escaped.

Posterior positions of the head can be avoided, even if the position is originally sacro-posterior, if care is taken to keep the back of the foetus facing the side of the mother after the breech is born, for at this time the head is free in the uterus and follows the rotation of the rest of the foetus. If it occurs forceps delivery will probably be necessary.

In conclusion the principal points to which attention is drawn are:—

1. On account of their high foetal mortality all breech presentations should be regarded as abnormal and should be diagnosed during pregnancy.
2. Doctors without exceptional opportunities for gaining experience in difficult breech cases should turn all they can during pregnancy.
3. Doctors with large experience can conduct breech labours without greater risk to the child than in vertex presentations.
4. The motto "*non vi sed arte*" bears with peculiar application upon the conduct of breech labour.

CAESAREAN SECTION.

BY L. CARNAC RIVETT, F.R.C.S.

Asst. Obstetrical and Gynecological Surgeon, Middlesex Hospital; Surgeon, In-Patients Chelsea Hospital for Women and Queen Charlotte's Hospital; Gynecological Surgeon, Freemason's Hospital.

The operation of Cæsarean Section dates from very olden times, but the original operation was performed on women after death in an advanced state of pregnancy, in the hopes of extracting the child before it succumbed. The operation owes its name to Numa Pompilius who was Emperor of Rome some time after the death of Julius Cæsar. During his reign a code of laws was written called the *Lex Cæsarii*, one of which rendered it incumbent on attendants of a woman who died advanced in pregnancy, to open her belly after death and extract the child. Julius Cæsar was not born by this method and the name of the operation is not actually connected with him.

During the Middle Ages the operation was carried out in scattered isolated cases on living women most of whom succumbed, although the possibility of obtaining a living child was recognised, certainly by William Shakespeare, who, in the play "*Macbeth*" endows Macbeth with a charm that he will never be slain "by man born of woman" and when things come to the end and he is engaged in mortal

And lastly, there is the case of the general practitioner or family doctor, who is certainly not least worthy of consideration in any post-graduate scheme of education, especially when we remember that he is not only the back-bone of the profession but that he forms by far and away the majority of its members. No doubt the courses referred to in the last paragraph meet his wants, but to attend them means as a rule, on account of the time and expense involved, the foregoing of his much-needed annual holiday. Hence it is an experience which cannot be often repeated.

One cannot admire too much the doctor who sacrifices his holiday for the purpose of making himself more useful to the community and it is in the easing of the burden of this altruistic urge that we see the virtue of the special intensive week-end courses about to be inaugurated, and for which we are sure there is a great future. They have the advantage that the time consumed is not more than even the most busy practitioner can occasionally spare, the time is fully and beneficially employed and the survey embraces all branches of his work so that variety will lessen the strain involved. To us one particularly fortunate arrangement seems to be that all the members attending the course will during its progress live together so that they will obtain that most valuable stimulus which comes from mutual discussion of the day's work.

ERRATA.

We regret that through an oversight in the proof-reading, the following appeared on page 286 of the August number of the Journal (9th line from the bottom of the page) "Refusal of a foetus to remain as a *breech* often implies a contracted pelvis".

The author has requested us to correct this.

For the word "*breech*" read "*vertex*".

To the Editor,

Sir.—I would be grateful if you would allow me space to correct an error in my Lecture on "Albuminuria and Eclampsia" which you published in the August number. In the last paragraph the name of Professor Stroganoff appears as "Studgaroff"

and I regret that this escaped my notice during the revision of the proofs.

Since the publication, I have received a letter from Dr. Perott, of South Kensington, telling me that his former master, Professor Stroganoff has been publicly disgraced in Russia and sent to exile. I am sure the news of this tragedy will be received with the greatest sorrow by all readers of this Journal.

It is said that prophets have no honour in their own country, and I cannot help thinking that Professor Stroganoff does not lose much, for, outside Russia, he is honoured and revered by Obstetric Surgeons throughout the world.

Yours faithfully,

ANDREW McALLISTER.