On the use of Ergot of Rye in Obstetric Practice

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The Limes
Wigton
Cumberland

April 1885.
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By far the most important property of Ergot of Rye, and one to which it owes its extensive employment in obstetric practice is its peculiar action on the uterus of the female. With regard to the application and extent of this action, viz. that of exciting uterine contraction there is considerable difference of opinion. According to some authorities the effects produced are limited to the case of the human female; whilst others maintain that a similar result is produced if administered to lower animals of the female sex. Again some assert that it only promotes the power of increasing the contractions of the uterus when that organ was disposed to act and did not produce them at initio (Rambootham). It appears, however, probable that it is capable of exciting the uterus to action at any time during the period of gestation, even tho' there be no
symptoms of approaching expulsion of the uterine contents by the natural agencies, and Pannus-Henry states that he has seen many cases in which premature labour had without doubt been induced by exercise. At all events there cannot possibly be any difference of opinion as to the effect it produces on the uterus when labour has commenced, whether at full term of pregnancy or during the earlier months of gestation. In the former case it certainly is capable of producing contractions, even though the uterus be in a state of complete inertia, and in cases in which the pains, to present, are weak and feeble, it decidedly possesses the power of spreading to and increasing their strength. Then in abortion it is particularly useful in promoting the expulsion of the uterine contents, more especially in those cases where it is almost impossible to remove the foetus and its appendages by manual efforts alone, and in checking haemorrhage which is often so dangerous to the mother until this is accomplished... Before taking in detail the points to be
observed in administering Ergot in practice, it is of the utmost importance to consider carefully the effects which are capable of being produced by it, both on the mother and on the child, and how they are produced.

In the case of the child we may consider them as producible thro' two channels viz.

1. Through the medium of the uterine walls.
2. Through the medium of the utero-placental circulation.

The effects producible on the child through the action of Ergot on the uterine walls are of a two-fold nature — according to the generally accepted view of the mode in which Ergot acts on the uterine muscles danger to the life of the child may be caused, partly by interference with the utero-placental circulation and partly by the mechanical pressure exerted on the foetus by the tonically contracted uterus.

In the former case we must remember that the maternal contractions are intermittent, a condition essential to the vitality of the foetus in utero, for no mechanism so its respiration is carried on chiefly by means of the utero-placental circulation, and
as each contraction interferes with the flow of blood through the uterine walls, so a relaxation of these walls, alternating with the contraction is necessary to allow the respiratory functions, interfered with during the contraction, to be resumed. That this alternate condition of the utero-placental circulation does occur naturally, anyone can demonstrate for himself. Even in a case of prolapse of the umbilical cord, he grasped between the fingers, the pulsation readily felt when no pain is present, ceases immediately on the interruption of the contraction, but only to recur on its subsidence. Now the contraction produced by the birth is said to be continuous and prolonged and not admitting any absolute relaxation, though without doubt some remission of its violence does occur at irregular intervals. He can then readily understand how the child, through this peculiar action, which is one differing so materially from the natural process must run considerable risk of being asphyxiated.
As to the effects of pressure on the head of the child, we know that frequently its life is endangered even in a natural case in which its passage through the pelvis is very greatly prolonged or in cases where intravenous and may become necessary. If this is the case, where the pressure exerted by the uterine contraction is the result of the natural powers, it is not difficult to understand how this danger may be greatly increased by the continued contraction which is the result of the action of gravity. Of course these effects will not be so apparent in cases in which delivery is comparatively rapid.

2. With regard to the effects capable of being produced directly through the blood of the utero-placental circulation, it is an ascertained fact, that the foetus in utero is capable of being affected by varying states of its mother’s system. This appears to be natural enough when we reflect that the nourishment of the child, by the mother, is carried on through the utero-placental circulation and how intimately the two
are thus connected. - We know that when such drugs as opium, lead or have been absorbed by the mother, to any extent, previous to confinement, that the newly born child does frequently exhibit symptoms of having absorbed some of the poison into its own system. The same result may be seen, where the mother is suffering from an infectious fever, such as small-pox. The newly born child often shewing symptoms of having contracted the same disease. Similarly, we may suppose, that the narcotic properties of opium, administered to the mother, may be manifest in the foetus in utero. When large doses, or small doses, frequently administered, are taken by an adult, it appears to remove some depressant action on the heart and so it is possible that similar effects may be produced on the heart of the foetus. It is, however, of no practical moment, because when administered during labour the foetus, as a rule, is not long enough under its influence to be affected by it. - Ramobotham records several cases in which the foetus died from
combinations immediately after birth, and in
which premature labour had been induced
by ergot, his results being ascribed to the
poisonous action of the drug. Though these
effects may be, reasonably enough, attributed
to the poisonous action of ergot, it is just
as probable that they were produced by
the prolonged interference with the respiration
and in fact were due to asphyxiation.
This view is supported by the statement that
they were cases in which premature labour
had been induced by the use of ergot, case
in which the drug would be administered
before any sign of commencing labour, and
consequently cases in which the ill effects
already mentioned as capable of being
incurred by the child would be greatly increased.

The effects capable of being produced on the
mother may now be considered—
The depressing action on the heart, already
referred to, is scarcely likely to affect the
parturient woman, for the heart during
pregnancy is considerably hypertrophied and
consequently is less likely to be affected by drugs.
possessing this physiological property, than one not in this condition. This supposition is borne out when considered in connection with the administration of chloroform in obstetric practice. For, whilst in general surgery, deaths from the use of chloroform are by no means infrequent on account of the depressant action on the cardiac organ which it possesses, in midwifery, on the other hand, a similar result is extremely rare. But the most important considerations, in connection with the uterus, are the results arising from the action of refrigeration on the uterus. As already mentioned, the contraction produced is tonic. If then delivery is not effected within a reasonable time, this prolonged and continuous contraction is followed by exhaustion of the uterine muscle. Rupture then occurs with consequences a fatal result.

The primary object then in using chloroform in obstetric practice is rather to induce or to increase the strength of the uterine contractions. The advantages resulting from
either action are twofold, viz.:

1. hastening the expulsion of the child,
2. checking haemorrhage.

and are present both in cases of abortion or premature labour, and in labour not commencing until the full period of utero-gestation is completed.

I. As a means of hastening foetal expulsion. As already mentioned, ergot may be used at any period of utero-gestation. As an initiator of labour, however, it is not used in professional hands, chiefly on account of various drawbacks which will become apparent as we proceed. But as its action is uncertain, and more convenient and safe methods are now generally adopted for inducing premature action of the uterus, its use for such an object need not here be further considered. Under the above heading the administration of ergot may be dealt with in relation to:

(a) Abortion — In the treatment of patients in whom abortion is occurring, whether brought about by natural or artificial
agency, Iritis is a very valuable adjunct and may be used with safety. The commencement of abortion is usually ushered in by a flush of blood from the vagina, and on examination, which must, should always be made in such cases, one may find the os in various conditions. If the os be not patent or dilating and the haemorrhage not severe, efforts may be made to arrest the impending miscarriage. If, however, the haemorrhage continue to be free and the os dilating, then evacuation of uterine contents, as speedily as possible will be indicated. The points and rules necessary to be observed in abdominal Ergot during the last two or three months of pregnancy, are not of so much importance during the period, before the child is able for even up to the sixth month, the foetus can as a general rule be expelled with ease, and in almost any position, on account of its small size and extreme flexibility. During the first two months, after parturition, the foetus may be actually expelled amongst the clots and general discharge.
without being noticed. As it is so very small, the state of the maternal passages is of little or no consequence, more especially as there is considerable relaxation produced by the haemorrhage.

From the third to the sixth month there is more obstruction to the passage of the fetus partly on account of its larger size, but also on account of a disinclination of the os to dilate, a result of insufficient development.

There is also a greater risk of dangerous haemorrhage; than in the very early months because there is more extensive connexions between the placenta and uterus.

In these cases, if we find the os only slightly dilated, means, such as tents, must be used to promote dilatation, whilst if haemorrhage be severe, Ergot may at the same time be administered.

In other cases, in which we find the os later more open, we may feel the uterine contents, either, contained completely in the uterus, or partially projecting into the vagina. If we are able to bring
the uterus easily within reach, we are often enabled to remove the uterine contents manually. But on the other hand, it very frequently happens that it is impossible to remove them without introducing the hand into the vagina and otherwise giving great pain. Of course Chloroform may be administered but as this is not always available, we will find Bryzine in these cases to be very valuable, by causing impulsion of the uterine contents without further assistance.

**Method of Administration.** In cases up to the third month, in which abortion cannot be arrested, Bryzine may be given once. In urgent cases, the subcutaneous injection of from 3 to 5 g of Bryzine will be most rapid and efficacious. In less urgent cases, however, it will be more convenient and advisable to administer the drug by the mouth. It will be found advantageous to administer a dose of from 3 1/2 to 4 of the liquid extract immediately and then continue its administration in smaller doses combined with the antiseptic.
A mixture such as the following may be used:

- Br. Ign. Digl. Lr. M 15
- Fine Digitalis M 5.
- Fine Opium M 3-5.
- Adm. 3-4.

and administered every two hours until we find the uterine contents evacuated or the haemorrhage cease - and then at longer intervals of say four hours for several doses or as long as much haemorrhage continues. We must satisfy ourselves as to the progress of the case and amount of haemorrhage by occasional examination. In cases where we are able to remove the entire uterine contents manually, as single dose of pure 3β-7 of the liquid extract will generally suffice to promote a proper state of uterine contraction and stop bleeding. But if much haemorrhage continue then the above treatment may be carried out.

During the fifth and sixth months, the administration of digl. may still be
Carried out in the above manner, state as the child advances in growth, we must pay more and more attention to the rules which guide us in its use during the last months of pregnancy.

(6) PREMATURE LABOUR — that is, labour occurring when the child is capable of not — before the seventh month. In such cases the administration of ergot for the purpose of quickening delivery is identical with its use at the natural termination of pregnancy — still a little more latitude is allowable as the foetus is much smaller and much more flexible than at full term. Though of course these advantageous conditions become less, the nearer full term is approached, still we may, if necessary, administer ergot in almost any case of this sort, in which the membranes are ruptured, the presentation natural and the as fully dilated — This latter must be carefully attended to, for in cases of premature labour, dilatation does not occur so readily and easily as in cases of natural labour, and is, in fact, very
Often the chief cause of obstruction and of a prolongation of the labour.

In the whole, we will do well to be guided altogether by the considerations present to be laid down in connection with the

Labour at full term. The consideration of the usefulness of this period is by far the most important, as much and possibly irremediable harm may be done if in the hands of careless or ignorant operators.

There are certain general principles to guide us in its administration, and conditions which if present are as a general rule contra-indications to its use. It may, therefore, be laid down that its administration is inadmissible.

1. Before complete dilatation of the os,
2. Before the membranes are ruptured.
3. In cases of mal-presentation.
4. In abnormal pelvis.

There is no question as to the inadmissibility of its use if any one of the last three conditions are present, but in the case of the first some slight degree of dilatation may be allowed.
This will, however, be considered further on.

If the state of the uterus points to the benefits to be derived from the use of this Operation, we must, in all cases, before thinking of administering it, make a very careful vaginal examination, so as to ascertain in the most definite manner, the precise condition with which we have to deal. The points to be ascertained are as follows:—

1. Can the child be detected, and if so, what is the presentation?
2. What is the condition of the os termic uterus?
3. Are the amniotic membranes intact?
4. What is the condition of the maternal soft parts?
5. What is the condition of the bony pelvis?

Presentation. One simple fact in regard to this, i.e., that no cautionous operator would venture to administer in cases, if the foetus were not within reach of the exploring finger for here, it is evident, that either the labour is only just commencing, or if more advanced, that the descent of the foetus is hindered in some way or other. Of course, this might be merely from uterine
inertia, one of the cases in which, other
conditions being favorable, delivery will be
given. Still, in such a case, the foetus
being so high up as possibly presenting
some features, which if he could ascertain
would present, it would be wise to exclude anything
which would increase the difficulties if
called upon to render assistance, it would
be wise in accordance with safety, to
endeavour to resuscitate pains in some
other manner.

On the other hand, the descent of the foetus
may be interfered with, on account of
abnormal presentation, or on account of some
abnormal conditions of the maternal
part, either hard or soft—conditions
present to be considered.

If, however, the child can be felt, the
next question which arises is, what
presentation or presentation may
best be administered, with a comparable
amount of safety, in order to quicken
labour, and granting that these conditions
are favorable? In answering this
it will be most convenient to take the
different presentations in detail.
First, if the buttocks or any part of
the lower extremity present, the use
of forceps is contra-indicated, for though
in these cases the greater part, possibly
the whole of the child is born by the natural
effort, still in most cases, there is
considerable delay in the passage of the
head, giving rise to danger to the child.
Life may come pressure on the umbilical
cord, or from pressure of the uterine wall
on the head—either this occurs in a
case left to nature, in which much greater
would be the danger in a case in which
forceps had been administered and in
which pressure exerted on the head,
and the interference with the uteroplacental
circulation would be of a prolonged
and exaggerated character.
Moreover, delay in delivery is increased
by the want of proper dilatation of the
maternal passages, a result caused by
a smaller part of the child passing first.
Second, if the shoulder or any part
of the upper extremity present, here
again is very contra-indicated. For in such a case also, artificial means will be required to accomplish delivery. The only possible exception to this rule would be in a case, in which we were able to rectify the mal-position, by the substitution of the head, but then, of course, the presentation becomes normal. Fourth - if the back, belly or side present, then again is its use contra-indicated, for in these cases also, assistance will have to be rendered.

Fourth, if the caput present - here it depends which part first meets the exploring finger - if it is a brow or face presentation - unless we can by manipulation substitute the vertex, then Poynter cannot be used with safety as delivery will possibly require to be brought about by artificial means. If the vertex present, the question as to the advisibility of Poynter, depends upon the position or diameter of the pelvis which the long antero-posterior axis of the head occupies. If the face is
to the front, that is, if the head presents an occipito-posterior position then as a general rule assistance is required to complete delivery, and consequently force must again be avoided.

We come then lastly to the only cases, in which we can, with any degree of safety, administer force to facilitate labour at the natural termination of pregnancy, viz. in presentation of the vertex of the child's head occupying either the first or second posterior positions of Vaiogall - And even here its use is restricted to those cases in which we ascertain the foetal skull to be in a normal condition. For in cases we diagnose a hydrocephalic or an unduly ossified skull, the probability is that we shall have to render assistance, and this as we have seen constitutes a contra-indication.

2. Condition of Os Uteri. Having decided as to the presentation the next point is to notice the condition of the os sacrum uteri. This is of great importance because, as the first produces violent and continued contraction of both the longitudinal and circular
acute labour, any condition of the mouth of the
mouth resisting the rapid passage of the foetus
necessarily endangers its life. We must then,
just fall. Notice the amount of dilatation which
the os has undergone - if it is fully dilated, that
is, to the size of a crown-piece or so, there is nothing
to contra-indicate, so far as it is concerned, a dose
of ergot being administered - but if on the other
hand it is not in such a state of dilatation -
what then? If it be only dilated sufficiently to
admit the point of the finger, then labour is
only commencing and the use of ergot could not
be administered. The same is the case even if
it be somewhat more dilated - then it becomes
still further dilated, but not fully so, the
question arises whether on no we may be allowed
of necessary, to advantage the benefits offered
by the use of this drug. The answer to this
depends entirely on the condition in which the time
of the os is found. We have then to ascertain
whether the time of the os is soft and dilatable
on firm rigid and undilatable - If we find
the former condition prevailing, it is evident
that the terrors of the labour, if pain are
severe or absent, is not due to any fault in
the os, but rather to a small p. of mis a targe. In this instance, the amnion might be in the apparatus, but its administration would have to be attended with the greatest caution. — Point if, on the other hand, we find a tight, rigid os, then the relaxation of labour, whether the pain be strong or weak, is due, in part at least, to this state of the os, and therefore, then means being necessary to overcome the obstruction, the use of force must be inadmissible. — There are certain conditions of the os, such as thick cicatrices, carcinomatous or calciform os, after impregnation, all which interfere with proper dilatation of the os and in which assistance would have to be rendered, and in all these force is contra-indicated.

3. Presence or absence of Flag: Amnii. — As long as the amniotic membranes are intact, the administration of force is improper. For as long as the child is immersed in the amniotic fluid, inspiration is carried on through the utero-placental circulation. If force be given at this time, the tonic contraction of the uterus, as we have seen, interferes with the foetal respiration, and unless the membranes are properly
ruptured and the child delivered without delay, it will be soon asphyxiated.

Condition of the Maternal Soft Parts—

Slight abnormalities in the soft structures are not of so much importance as the corresponding conditions in the bony pelvis, for the former admit of a certain amount of dilatation and expansion from the pressure of the advancing fetus, a condition of which the latter does not partake. But even here, all causes of obstruction in the soft structures, however slight, must be carefully noticed and appreciated, and every attempt of relief—cautious in the extreme—we may find the uterus displaced with ease. This, however, is no moment as this material will be speedily expelled as the head of the fetus descends. In cases of a protuberant bladder, the administration of fluid would depend on the removal of the obstruction. In cases of cicatrices, where great extent and thickness, we need not be deterred from using slight caustics. But if they are formidable or if we find hands of tremo—
Stretching across the vagina, on an unruptured hymen, then these conditions must be previously removed. Again we must avoid its use in cases of rigid perineum, either occurring naturally, as is frequent the case in primipare, or as the result of previous laceration. It must, if possible, endeavour in all cases to preserve the perineum practically intact, and, for this end, we require to have the peculiar advance and recession of the foetal head which naturally occurs more especially when the labour reaches this point. Finally in cases of tumours, whether uterine or ovarian, projecting into the pelvic cavity we must of course avoid using force to hasten labour.

5. Condition of the bony pelvis. To some extent the knowledge gained by examination as to the state of the bony pelvis is the most important factor in determining as to the admissibility or inadmissibility of force. The amount of obstruction caused by malformations and outgrowths varies extremely from a mere flat to minor pelvis and one in which the outgrowths are more apicules
to a Malacosthenic or Pictetty pelvis and one in which its cavity is practically completely occupied by a bony tumour - in the case of Malacosthenic Pictetty, Spondylolthisc, or Roberts pelvis the administration of oxytocin would be out of the question, as also would be the case in regard to the presence of bony tumours of even very small dimensions or even mere projecting bony spiculae for in all of these no yielding to the pressure of the foetus descending can possibly take place and artificial means to obtain the birth of the child will be necessary. - The only doubt that arises is in that of a fasto-lunion pelvis. - But here, although the cavity is perfectly symmetrical in all its diameters, still all are reduced and though in cases in which the foetus be exceptionally small, delivery may take place by the natural efforts still as a general rule assistance has to be rendered and consequently oxytocin ought to be avoided. - In fact with regard to the bony pelvis, if on examination, unless we find the cavity to be perfectly free from projections of any kind whatsoever, and of good capacity we ought to avoid the use of such an oxytocin as syntometrine.
Method of Administration. It will be convenient here to consider the forms in which digit may be used, the methods of administration and the advantages and disadvantages of each. As already mentioned, digit may be administered either subcutaneously or by the stomach.

(a) Subcutaneously, the advantages gained are rapidity of action and a much greater certainty in producing the characteristic effects. There are, however, certain drawbacks. The effects produced appear to be more powerful, and are not under the control of the operator to the same extent as when administered by the mouth.

In addition, there is a tendency to produce irritation at the point of injection and to the formation of abscesses. The effects might possibly be regulated by the frequent injection of minute quantities, but this repeated operation could not possibly be carried out in practice, not merely on account of the pain produced, which alone would be sufficient to cause protestation on the part of the patient but also on account of the formation of abscesses would be increased.

From these considerations, it is evident—
that this method of administration should only be resorted to in urgent cases of haemorrhage, cases in which, rapidity of action is the greatest possible moment to the safety of the patient. It cannot, of course, not to be used merely for the purpose of inducing contraction in cases of tarry labour from uterine inertia. There are numerous preparations of Ergot for hyperdermic use, all of which possess, to more or less extent, the disadvantages already mentioned. The preparation which I have found most reliable and most free from these drawbacks, is that prepared by Siggelk of Liverpool, which the strength is 3 grains of Ergotine to 10 minims of Solution.

(b) By the Stomach. Ergot may be used by the mouth, in several forms, the chief of which, however, are the Powder and Liquefied Emetic. Of the former there is no practical experience, but some regard it as being the most effective form in which to exhibit the drug. Ramstedt directs it to be used in the proportion of two drachms to four or six ounces of boiling water; allow it to infuse for twenty minutes and a
fourth part of the strained liquor was administered by mouth, but an hour until the desired effect was produced. The evident disadvantage of the above method is the time and trouble taken in its preparation and may be diminished with this disadvantage especially as we have at hand a much more convenient and equally effective preparation in liquid extract. This is the form most generally used, when administered by the mouth is prepared. It may be administered, in doses, for the purpose of producing delivery, in doses varying from a few minims to one or two drachms. Its action is uncertain, the effect, as is the case with most other drugs, a wide difference in the susceptibility of different individuals. In some, a small dose such as 10-15 minims produces marked effects, whilst in others, doses of one drachm and upwards will fail to produce any effect whatsoever. I think there is no doubt, but that, in the majority of persons susceptible to its action, the effect produced, vary according to the amount administered, and that we may
frequently almost simulate natural labour by ad
inging it in the manner which will presently be mentioned. It can of course be given in large or small doses. A dose, say, one drachm will as a rule produce violent and prolonged contraction of the uterus, at the same time causing great anguish to the patient, so much so, indeed, that it is often necessary when this occurs, to terminate the labour artificially. But on the other hand, by using small and repeated doses, we will generally avoid the above unpleasant effects, though, as already stated, there are individuals so susceptible that violent effects similar to the above are produced by even such small doses.

These, however, are the exception, and upon the whole the most satisfactory results are obtained by this method of administration which is as follows—Mix one drachm of the liquid extract with four good teaspoonfuls of cold water or warm tea. This latter appearing to facilitate its absorption. Administer the teaspoonful of the mixture every quarter hour until...
the desired effect be produced — if it fail to produce, or increase the strength of the pain, no more need be administered and other means to terminate the labour will require to be resort to — The above practice may have advantages of added to it fifteen to twenty minutes of the warmest fluid, of opium, which appears to add to the effect. The above method, which it will be seen resembles that recommended by Ranotatto in using the powder, is that which I usually use and find, that though by no means certain in all cases, still as a general rule the result is extremely satisfactory. the pain coming on gradually and to all appearance identical with those of nature no contraction followed by a distinct intermission during which the patient is quite free from pain — Another advantage in the above method is, that in case of desire, for various reasons which may arise in the progress of the case, to desist from its administration, after giving such small dose, the effect produced will as a general rule, gradually wear out and
leave the uterus in the condition in which it was previous to the administration of the drug. I have several times noticed this, and it has on one or two occasions been extremely useful in the further treatment of the case. He may now consider the exhibition of oxytocic during the various stages of normal labour. During the first stage its use as far as we have seen, is inadmissible— the os and cervix being fully dilated— probably the membranes being still unruptured.

During the second stage its use is dependent on the maternal part being perfectly free from obstruction and in the presentation of a normal foetal skull— And though, here the only cases in which its administration is most contraindicated, from the great bulk of labours, still even in these cases we can never be sure that some cause for artificial help may not arise, and in some we should have already given the patient digito— our subsequent treatment may possibly be considerably interfered with and rendered much more difficult— of performance—.
Some advocate its use only after completion of the Third Stage, not only for the above reason but also from the fact that we may possibly have to deal with an adherent placenta. This is a condition which cannot, with any certainty, be diagnosed beforehand and if Ergot should have been previously administered, not only is the work of removal increased in difficulty, but, in addition, the force necessary to overcome the violent contraction of the uterus, so as to admit the hand, may be productive of considerable injury to the uterine walls. This latter is certainly a strong objection to its use. I might say, indiscriminate use—But the force of this objection will be considerably reduced, if the Ergot is administered in the method already advocated, viz. that of repeated small doses, for then we administer only enough to excite uterine action, ceasing its administration on obtaining the desired effect.

More caution is necessary in using Ergot for the purpose of shortening labour, in primiparous than in multiparous. In the former class of cases, I think that, on the whole
it is best avoided until after the completion of the third stage. For, in these, it is obvious that the existence of such morbid conditions as which might not have diagnosed and concerning which we have not the experience of the previous labour to guide us, there is always a somewhat rigid state of the maternal soft parts, especially the perineum, and for the proper dilatation and maintenance of which it is requisite that the labour progress gradually and be left as much as possible to nature. This is a case in which ergot has been used freely is generally unattainable and consequently when pains fail we should first all endeavour to resuscitate them by other means such as friction of the abdominal vagina or os uteri. Failing these, however, we may administer ergot cautiously and in the manner already indicated and having done so should be particularly careful in protecting and supporting the perineum as the head is being expelled.

In the case of multiparae, on the other hand, more latitude in its use may be allowed.
The part are more relaxed than in primiparae, and in addition the Pousette is prolonged so that these obstructions to the passage of the child, which are the chief causes of the more prolonged labours of primiparae, are in these instances absent.

To some extent, we have a good guide in the character of the patient's previous labours. In case any of them have had to be terminated by artificial means, it would be unwise to administer Ergot, at all events until the labour was almost completed. In fact, however, if in multiparae it be used in a similar manner to what I have had in reference to primiparae, it will certain be productive of violent clamping in inexperienced hands, and often案件 even in the hands of a skilled operator.

One class of cases not yet mentioned is that of Plural Births. Should the presence of more than one foetus have been diagnosed previous to delivery, it would not do to administer Ergot to promote uterine contractions previous to the birth of the first child, for in case any obstruction
to its passage should occur; the remaining foetus would annually suffer, especially as in the great majority of cases, the amniotic membranes would still be unruptured. In addition there would also be the risk to the mother of the delay in emptying the uterus after the birth of the first child, and rupture of the membranes of the second, if the latter be found presenting normally; there is nothing to save the bag of Meconium if adherent placenta be present. The administration of a dose of ergot may, however, in these cases, be proper even to run the risk of this occurrence, as there is in cases of placental births, a greater tendency to dangerous haemorrhage as a result of the great distension to which the uterus has been subjected by the presence of more than one foetus; then if the second child be presenting by the buttock, we need not altogether be prevented from giving a dose of ergot; for the children are usually very small, and moreover, the passage of the first so dilates the maternal passages as to render the expulsion of the second very easy.
2. As a haemostatic - it is undoubtedly on account of this property that ergot is of so much value in midwifery. It may be administered either as a precautionary measure to prevent free haemorrhage from the uterus, or, on the other hand, it may not be exhibited until after the occurrence of such haemorrhage. In the former case administration by the mouth will generally suffice, in those patients who are susceptible to its action, whilst in cases in which this fails, or in which it is not used unless haemorrhage occurs, we must have recourse to the subcutaneous method as being the most rapid way of producing the desired effect. In cases of uterine inertia previous to the birth of the child, the want of contraction of the uterus favours the occurrence of haemorrhage and in those cases in which we have already administered ergot to eliminate contraction its prophylactic properties are more manifest. But I think that these properties may be advantageous called into play in all cases of labour by administering it in the manner...
which I shall presently refer.

As haemorrhage from the uterus may occur either previous to, or after the expulsion of the foetus, we must consider the use of ergot as a haemostatic under these two headings, viz. in cases of

(1) Antepartum haemorrhage.

This may be due either to misadventure and then called Accidental, or to mal-portion of the placenta. Haematuria.

In these cases, we must in the administration of ergot be guided, partly at least, by the fact already considered — no operation would immediately give a dose of ergot on seeing haemorrhage proceeding from the vagina, either previous to, or at the commencement of labour.

If the case be one of Accidental haemorrhage and it were found necessary to bring about labour, we might, after rupturing the membrane, and being guided by the rules already laid down, administer ergot as already explained — as a general rule, however, on rupture of the membranes the haemorrhage practically
cases, or, at all events, cease to be dangerous, and the further treatment of the case will depend upon circumstances.

In placenta praevia Ergot is distinctly contra-indicated, at any rate, unless delivery is almost effected; for in these cases, as a general rule, asepsis in other ways has to be rendered. If, however, the haemorrhage be not severe enough to induce us to terminate the labour at once by boring, we may, after rupturing the membranes and guided by what we have already considered, cautiously administer Ergot. In most cases, however, it will be wise to terminate the labour speedily and without the crutch.

(2) Postpartum haemorrhage or haemorrhage occurring on separation of the placenta from the uterus after the birth of the child, is often of the most formidable character. There are numerous methods of combating it, but none, except in the most valuable although like the others, it may fail itself to produce the desired effect. The best results are those produced by the...
Simultaneous injection, and possessing this method we may safely postpone
its administration until haemorrhage occurs.
If this occurs on before expulsion of the
placenta, we should immediately remove
it and inject from 10-20 minims of the
preparation Pregestone already referred to.
We may homoeo-arid ourselves of the action
of shopf to prevent the occurrence of haemorrhage.
after completion of the second stage.
For this purpose it may be administered
immediately after the birth of the child, or
when it is on the point of being expelled,
in doses of from 3 to 7 of the liquid extract.
As a matter of general rule from
twenty minutes to half-an-hour to develop
its effects, it is probable by that time
the placenta will have been removed
on that: if this has not been accomplished,
our attention will have been directed to
the fact, that assistance will probably
be required - and this, will in all
probability have been rendered before
the drug takes effect - still this is
not by any means certain and it
The case be one in which the placenta is adherent to the uterus, we may find considerable difficulty in effecting its complete removal. This is, however, a comparatively rare condition, and if we are inclined to take the risk, we may use the drug as above mentioned. Nevertheless, in ordinary cases of labour, those in which the patient is in good health and not exhausted—in which the pains have been strong enough for expelling the foetus, and in which we have retained the uterus in the hand, observing contraction as the body of the foetus was expelled—and having registered in our possession, we may, I think, with advantage, wait till the termination of the third stage before administering a dose of ergot by the mouth. In many cases, when this point has been reached, it may and I think should be administered in order to retain the uterus in a state of contraction, thus reducing to a minimum the chances of haemorrhage taking place after the patient has been left—For this purpose we may give any dose up to two drachms.
In conclusion we have in Ergot, a drug which renders valuable assistance in suitable cases of toxaemia labour, and which as an opponent of uterine haemorrhages possesses value which cannot be over estimated. It will be seen however, from what has already been considered that it is a drug which, if we desire to insure successful results together with an absence of the production of annoying and even dangerous complications, must be used with great caution and with a perfect understanding of its physiological properties and of the sort of cases suitable for its exhibition. Considering the important issues, the knowledge, and the extensive manner in which Ergot is now used in general practice, it is surprising that the matter is not made the subject of more exhaustive consideration in the ordinary text books, in which as a general rule it is dismissed with
a brief notice, as being one amongst numerous other methods of promoting uterine contraction. The result is that a beginner is rather inclined to run away with the idea that in Ergot he has at his command a panacea for all the ills attendant upon labour rendered tedious by want of pains, and may thus be led to use it somewhat indiscriminately. His knowledge of what constitutes in the living subject a pain of normal diameters is ascertained by his finger; of a dilatable or fully dilated as uteri; of a rigid perineum or frequently an if the precise presentation is to say the least of it very often somewhat vague. And, in a case in which the pains lose power or completely fail, but still are in which otherwise he considers suitable for the use of Ergot, he is led to administer it; if there should unfortunately arise some unforeseen obstruction to the rapid termination of the labour, he may find himself
confronted with symptoms which demand immediate relief and that by means which, possibly, may tax his powers to perform. —

Superemeris, he has to pass through the ordeal of such a case, to be, for the future, in the use of his foibles, cautious in the extreme. My first experience of the use of the forceps was in a case in which, as it turned out, had administered incautiously, or rather from want of experience, a dose of ergot to promote pains. — The result was, that, owing to the os uteri not being fully dilated, the patient was thrown into such a state of prolonged agony, that immediate relief was rendered imperative. — This was finally effected by means of the forceps, but, from the difficulty then encountered, forces through the contracted state of the uterine fibres, I should now infinitely prefer to endeavour, first of all, to excite uterine action by the use of all other methods at command, previous to resorting to the use of forceps.
and in cases suitable for their application would rather rely on the instruments as a means of effecting delivery.

There is, I think, no doubt that great advantage is to be gained by the use of ergot in small repeated doses, as already stated, and that, for excising pains previous to delivery, single large doses ought to be avoided.

A question here presents itself. Are the contractions, produced by such small doses of a tonic character? Of course this might and probably is the case in a patient very susceptible; but in the majority of cases I am inclined to doubt it. If they were so, it would be apparent to the patient herself, who we should expect to experience prolonged pain. But I have generally observed that this is not the case; the pains coming on gradually and alternating with almost regular intermissions, as in normal labour. Again, we know how rapidly a child is asphyxiated in cases of breech presentation or of
Despite the promise, thorough pressure on the umbilical cord. So, if the contraction the result generally does of a more tone and prolonged there would be a similar stoppage of the uterine-placental circulation incompatible with the vitality of the child, and consequently there should be numerous cases of still birth. But this again is falsified by the actual facts.

At all events, this is the manner in which I invariably exhibit Bragg with the object of promoting fetal comfort and certainty with very gratifying results. I am moreover in the habit of administering from half to one dram of the liquid extract immediately after the birth of the child. This cannot, I know, be done with absolute safety until after the expulsion of the afterbirth, but since the occurrence of post-partum haemorrhage is so appalling and that of adherent placenta, comparing speaking, so rare that I am always disposed to run the risk of having to combat the difficulties
inseparable from such a case. As yet, out of some 200 cases of midwifery, which I have attended, I have never met with a case of adherent placenta, but when I do, I may be induced to change my opinion as to using ergot previous to the expulsion of the placenta.

Another slight drawback attending the use of ergot previous to the completion of the third stage, is the fact, that it appears frequently to cause retention of the placenta within the uterus. This is in all probability due to the contraction of the circular fibres of the uterine which occurs similar with that of the longitudinal fibres.

The result is, that it is frequently necessary to introduce the hand into the vagina to effect its removal. I have had occasionally to have recourse to this somewhat objectionable proceeding. When the retention of the placenta has been apparently due to the above cause. Finally it is evident that the freedom with which ergot may be administered during labour depends entirely on the still possessed by the operator in
being able to overcome any unlooked-for difficulties which may arise; in time to avert danger, which in such cases may threaten the lives of both mother and child. If he is in a position to do this, it is probable that this myrture may be used somewhat more freely, but nevertheless, always cautiously—especially when one takes into account the fact that in the great majority of cases in which it is applicable, its use will not only be accompanied by a saving of time, which in itself is of great importance in the case of a large obstetric practice, but there will be, also, a considerable reduction in the length of the labour, followed by a corresponding saving of strength to the patient, with less disposition to haemorrhage (and frequent resection, to a considerable extent, in the quantity of the immediate succeeding loss) and consequent a more rapid return to health.

Charles J. Fizgen