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Dissertations

read by the

Candidates for the Degree of Doctor in Medicine,

in the

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at the

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January 25 26,

1854.



VIII.

Dissertation

on

Induction of premature labor.

By

Henry Pierpont

of Southfield.



Induction of Premature Labor?

In treating of this subject, which is of more or less practical importance, to every practitioner, and particularly to those who confine themselves especially to obstetrical practice, I have a few ideas to vent: First of the propriety of bringing about "premature labor" readily, when necessary.

Secondly the difficulty in effecting the object
And lastly the means adopted.

First the propriety or morality of bringing about premature labor. ^{If one ~~can~~ ~~do~~ ~~it~~ ~~but~~} There can be but for any means we can use for the preservation of the lives of the children without adding to the danger of the mother we must certainly consider proper, and right to be carried into practice by every obstetrician. If in any case the pelvis of a woman is so much deformed, or so small as to

render it impossible for the passage of the
head of a full grown fetus, and yet not
so far reduced in its dimensions as to
prevent the head of a child of much less
size from passing through it. Thus
might the operation be performed with
the hope of saving the child, relieving
the mother from much suffering and
distress, and perhaps even saving her
life.

Dr. Gannan states that women whose
pelvis are so much deformed, usually
have a wonderful aptitude to conceive.

And in the course of his practice
in several instances he has been called
to the same woman in five or six successive
labors merely to give sanction to a
operation by which the children were
to be destroyed.

He also states that a great
number of instances have occurred to
his observation, of women so formed,

It is not possible for them to come
forth a living child at the termination
of nine months, nor have been observed
with living children, by accident, coming
at a later time than they were ^{born} at the
advanced in their pregnancy!

We are informed that as early as
about seventeen fifty six, there was a
consultation of the most eminent physi-
cians in London on that time, not
in consideration of the morality, safety,
and the advantages to be expected
from this practice. From which consulta-
tion it appears that the practice met
with the general approbation.

The first account of artificial
method of bringing on premature labor
was performed by Dr Macarty, and
terminated successfully.

C. Kelly also informs us that
he has performed it, and among several
instances, one in which he performed

it three times upon the same woman, and twice
the child was born alive.

Still some have doubt-
ed as to the morality of the practice.
And perhaps we might here state that the
circumstances which may render the ope-
ration necessary have not been stated
with a sufficient degree of precision.

But as Dr. Curran says, it is a
common sense principle: that of making
an attempt to preserve the life of a
child, when, must otherwise be lost,
and nothing being done injurious to
the mother in the operation, but on the
contrary a probability of lessening it
suffering.

It would seem, it then to be a
reasonable prospect of success no argument
could be brought against it, which would
not apply with equal force against medi-
cine in general.

Dr. Curran, says the matter carefully

attended to all the circumstances which have
occurred, when it had been performed in more
than twelve cases, in which he had operated
or it had been by his advice, he has not
known one untoward or dangerous accident
that could be imputed to it; and in a
great number of cases the children have
been born alive. Also that the operation
has been performed successfully by others
since his first proposal.

With these statements
of its safety, in cases in which it is demand-
ed, we should have reason to expect that
the operation may be performed, with
the hope of success, and safety to the
person on whom it is performed.

And in proper hands a surgical means of
procuring great benefit, to a suffering race.

But should abortion or premature
labor be induced, to screen one from the just
reproaches of the world, or to hide the evidence
of the gratification of criminal passions,

When is murder committed.

And justly does the practitioner, who operates under those circumstances, place his own freedom into the hands of others who may turn traitor; and by its means deprive him of the liberty of performing it again: so also does his character ever afterwards suffer the censure of the community.

But our object under the circumstances now treated of is to save life. And as probably two beings may at the same time be preserved to society by the means proposed, the profession cannot question as to the morality when imperious necessity demands it.

Secondly when necessary.

From what has been already stated may be seen that the operation is confined within certain limits.

Within these limits may be included cases of extreme nausea from which the life of the patient is placed

in eminent danger: the patient invariably bearing very large children: cases of great uterine hemorrhage, before the completion of the term of utero-gestation: deformity of the pelvis, and other accidental circumstances.

In deformity of the pelvis: if the cavity, though reduced in its dimensions, be of such a size as to permit the head of a full grown child, to be squeezed through it, by the force of strong and long continued pains, the operation is not required, and should hardly be thought of.

Also if the pelvis be so far reduced, as not to allow the head of a fetus of such size, as that hopes might be entertained of its living, then the operation cannot be attended with success: though even then the mother may be saved from much suffering.

It is in those cases in which the pelvis is reduced in its dimensions, so that the fetal head at full size cannot pass: and in which it is not so far reduced,

but what it may pass of sufficient size as to allow hopes of it's living, that the operation is to be performed, or performed with success.

It is therefore a question of great nicety; what degree of contraction would warrant us in advising the operation: unless deformity exist to an extreme degree the operation is barely worthy of consideration, in first pregnancy. As no one would ordinarily be justified in so serious an operation, without having first thoroughly ascertained the dimensions by personal examination, and that under the most favorable circumstances.

And it would be hardly advisable for a young practitioner under almost any circumstances whatever, to undertake it without having first called council, and the same project sanctioned by them.

It has been laid down by most writers as a principle that a child at first birth may pass through a pelvis containing in its conjugate diameter at its brim three inches.

We may therefore hope if the pelvis exceeds that diameter, and is well formed, that the fetus may be born alive naturally: except in some extraordinary cases as above stated.

When the patient has invariably born very large children, on account of which it has been rendered necessary to destroy the child for the safety of the mother.

Dr Ramsbotham remarks that if the conjugate diameter measures a little less than three inches, we may allow the pregnancy to advance to the end of the eighth month: if about two and three fourths inches, to seven months and a half: if ~~over~~ two inches and a half it must not proceed beyond the seventh: and if the space be less than two and a half inches it would be unsafe to delay our means beyond the seventh month: and he should be inclined to induce labor even sooner, as children of an earlier period have been saved. Other instances which may render the operation

necessary, aside from deformity, are uncommonly large children are thus.

If it has occurred to the same woman in a number of successive pregnancies, to be aware of the death of her infant at a particular period towards the close of gestation; and the cause of the death of the child is to be attributed to any uncontrollable cause referable to the mother, as deficiency of nutrition, the operation should be brought into consideration.

Also, in other states of disease in which the life of the mother is placed in eminent danger, and there is reason to suppose the danger would be aggravated, by the continuance of her pregnancy, we may be warranted in having recourse to the operations.

Hamilton informs us that he has resorted to it twice, with the view of preserving the mother, in one of which cases dropsy induced him, and the other, deadly exhaustion and depressed vital powers.

Also in retroversion of the uterus.

Thirdly the difficulties in affecting the object.

The difficulties to be contended with are certainly great, in the proposed plan of saving the child's life.

First the liability of deception, regarding the period of pregnancy in which the operation is to be performed.

Women are liable to be deceived in their reasoning: they may think the period of gestation is farther advanced, than it really is.

And in this way we may be induced by misrepresentations to bring on labor before the fetus is perfected in a sufficient degree as to enable it to be sustained independent of the mother.

So on the contrary she may have become pregnant before she was aware of it: and thus we may delay the operation until it is too late: the child having obtained sufficient size, and so strongly ossified as to render it impossible to pass through the particular peris, which the woman may

Joseph. Thus our designs being thwarted,
and we at last compelled to resort to the
operation of craniotomy.

Second cause.

The pressure upon the funis, the membranes
being ruptured may destroy the existence of
the fetus. Pandelocypin and others advanced this
as an objection to the too early rupturing of the
membranes, even in natural labor while it is
in progress. As to the efficacy of the waters in
obviating pressure, while the membranes are whole,
there can be no doubt; however great the pressure
may be.

But as soon as the waters are evacuated,
the parietes of the uterus come in close contact
with the body of the child: it is therefore reason-
able to suppose the umbilical funis might
suffer sufficient amount of compression
to destroy the life of the child.

And may be considered as one of the most
grave circumstances in opposition to the suc-
cess of the operation.

Andly. It is stated by Ramsbotham, Merriman³ and others, that an unnatural presentation is of more frequent occurrence when expelled before the end of gestation, than after the time is fully completed.

That at a particular period of pregnancy the fetus assumes a different position from which it seldom after varies.

At what time this period is they do not say, though it differs in different cases.

They also remark that the fact is undeniable and state a number of cases, of which quite a proportion of them presented preternaturally to prove the assertion.

Though with my limited knowledge of the action of the parts, the assertion does not appear hardly in accordance with the rationality of the action.

As the uterus expands with the growth of the child, and as I suppose in the same proportion at one period of gestation as another.

Consequently if the fetus is able to turn at 14
one time, why not at another; or at least why
not at any periods after ^{that} time.

So on the contrary if not able at one portion
of the periods of gestation, what grounds
can there be for the supposition, that it
can at another.

Dr Parlow's experience, to which
Ramsbotham gives his assent, may in a
measure explain why so great a proportion
present unnaturally in cases, where labor
has been induced. He (Dr Parlow), remarks,
and others coincide with his observations; that
he is induced to believe preternatural presenta-
tions are more frequently met with in
deformity of the pelvis, than when the organ
is well formed: how this should have
an influence on the position of the fetus,
is difficult to explain.

If this is the case it accounts for the great
proportion of preternatural presentations in
the cases reported by Dr Ramsbotham.

And conflicts with his opinion of the fetus 15
changing its position at a certain period of
pregnancy.

In unnatural presentations, as of the
breech or shoulder, we should have but little hope
of saving the child, in consequence of the deformity
to warrant recourse to the operation: for
aside from the ordinary danger, the pressure
on the umbilical funis must be greater,
when the head is passing the deformed strait.

Though these difficulties would
deter us from making a hasty prognosis
in favor of an operation, they should by
no means induce us to abandon the bene-
fits to be derived from it.

Fourthly and lastly the means
adopted.

There has been several methods
recommended and adopted for exciting
uterine contractions by different practi-
tioners. Some proving efficient in one
case, and not in others, and others of greater certainty.

First. Abdominal frictions, manipulations & 16
with the warm bath &c.

But these have very rarely succeeded: though
proper if there is the slightest hope of success:
as the patient is not rendered the more
unfit for any of the subsequent operations
by its trial: and the more simple the
operation if successful the better.

Secondly.

The separation of the membranes
for two or three inches around the os-uteri.

This having proved successful, is prefer-
ed by many, its being the nearest
imitation to natural labor.

Dr Hamilton remarks that he is
convinced from the experience of the last
ten years, if there is a sufficient portion
of the decidua separated from the
cervix uteri, there is no occasion for the
operation of puncturing the membranes.

Dr Couquist states that he considers
it as effectual as the other modes.

and much safer for the infant, as saving it from pressure during the pains.

Buntingham and Kluge have proposed and practiced with great success the dilatation of the ^{os} uteri by means of a piece of sponge placed within it, and maintained there by a plug in the vagina. This acting as a permanent, regular, and progressive irritation to the parts, can rarely fail to induce such an excitement as to bring about uterine action of sufficient energy to accomplish the object desired.

But even should these last two means fail there still remains room for the following operations.

That of puncturing the membranes: and from its great certainty it has been preferred by a majority of the profession.

Though Velpeau from his experience, does not consider this as certain as the dilatation with the sponge, as proposed by M. Kluge.

By rupturing the membranes the process of gestation is certainly interrupted, and that of labor comes on sooner or later: the time that elapses between the operation and labor is exceedingly various.

Sometimes commencing in the course of a few hours, again not until the lapse of two or three days and even a week.

Before operating it is necessary that we should possess an accurate knowledge of the anatomy both of the ovum and the maternal structures. And great care must be observed not to wound the mother, or the child: and should there be a quantity of water between the membranes, and the amnion remained entire, gestation might and probably would proceed uninterrupted, consequently, to much care cannot be observed on these points by the operator.

Fifty; the administration of ergot.

This article of Materna Medica is now generally believed to have the power of originating uterine contraction, when impregnated: though denied it by some, and by others that it acts only indirectly on that viscus through the general disturbance it occasions: having no power over the uterus both the impregnated and the unimpregnated states, except through the violence done to the mother.

Probably there is no country in which it has been administered more largely than this, and by practitioners of the greatest eminence.

From these results, of cases, we seem compelled to admit, that ergot is possessed of expulsive properties, by which it acts on the parturient uterus, and precludes the belief that its agencies are produced indirectly by violence done to the constitution of the mother.

Still it is deemed by many that it

is not capable of producing any effect upon the impregnated or unimpregnated uterus, except when parturition has commenced.

That it does on the unimpregnated I am not prepared to say.

But that it does on the impregnated, I think the majority of the testimony is in its favor.

It was affirmed a few years since that in the neighborhood of Jons' Coix, in France, there was during the season of eighteen forty one, an epizootic abortion among the cows, which produced much consternation among the farmers; and that, M. Bollin, director of the school of agriculture had discovered that the grains of rye, and many other of the gramineae contained quite a considerable quantity of ergot.

Dr. Sonnervill and M. Falaric have related cases in which the effects of the ergot was to force down a polyperid, so that a ligature could be applied.

Dr. J. Rambotham considers ergot,

as capable of exciting Specific power on
the uterus at periods of utero-gestation:
and has referred to several cases of prema-
ture labor, induced in his own practice
by its use. Though he concludes, that
although it may bring on labor without
having recourse to any operation, yet
that it does not present a more likely,
or indeed so probably a means of saving
the infant as the operation of punctur-
ing the membranes.

The effect of this drug
on the mother, and at what periods it
acts on the uterus, has not been the
only topic of interest in regards to its
use in parturition.

It has been maintained by many
that since its introduction, the number
of the still-born has been augmented,
and that observation has sufficiently
shown, that when it is given to expedite
delivery, more or less danger always

accents to the offspring: either by induction 22
of asphyxia, or of positive death, owing to
the violence of the uterine contractions, or by
the direct agency of the eyes on the fetus.

The testimony that it affects the fetus by
any direct agency upon it, is not sufficient
to confirm the opinion.

Dr. W. Sambrook, Traillwaite and
others affirm that in order that eyes should
act perniciously on the child it is necessary
that its action on the uterus should be
uninterrupted: and they have seen
or never seen any bad effects on the child
when the patient had rest between the
pains.

Dr. Samuel Patterson details the
particulars of a case in which the enormous
quantity of ^{four} ounces was given, and the
movements of the child continued
lively: he also refers to a paper by Professor
Ces. Sarsen or Sarsen, which contains
a reference to one hundred and seventy

five cases, and there was but one of the whole number lost, which could be referred to the course of the year.

Whit's statement does not prove it's deleterious effects to be as great as many of its opposers would be liable to grant it.

But even admitting these untoward effects when administered in sufficiently large doses to bring on labor of itself: none could scarcely doubt of it's efficiency and value in combination with some of the above mentioned means for the induction of labor.

By giving it in some three or four doses at intervals of a few hours.

The uterus becoming soft and relaxed, and then rupturing the membranes, which is a speedy and very safe way of operating both to the mother and infant.

After labor has been begun on by any
of the means proposed, it is to be conducted
as in ordinary labor, except that perhaps
both mother and infant may require a
little more close attention at the termination,
than when the whole process is completed
by nature alone.

C. S. Smith

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