AN
INAUGURAL DISSERTATION
ON
Uterine Hemorrhage during Pregnancy

SUBMITTED TO THE
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BY
William Newton Bicknell

OF
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To
John M. Watson M.D.
Professor of
Obstetrics, and Diseases of Women and Children
In the
Medical Department of the University of Nashville
As a Testimony of Respect
For His
Talents, and Professional Attainments
This Thesis is Respectfully
Inscribed

By the Author
Uterine Hemorrhage during Pregnancy.

It is not expected, I suppose, in writing a Medical Thesis, upon a subject so much treated of by Authors, and so well understood at the present age, by those learned in Medical Literature and practical Medicine, as the one I have selected, that a Student would be able to present much new or interesting matter concerning it. I may much regret, that I shall not be enabled to form an exception to this rule; but if I shall be able to present the subject in a plain, succinct manner, according to the teachings I have received from approved authorities, I shall feel satisfied.

This subject presents a wide field for discussion and elucidation; too much so for me to attempt to travel over the whole ground, or to give it a minute investigation. I shall therefore confine myself to the consideration, and treatment in general terms of accidental hemorrhage during pregnancy.
Accidental hemorrhage, is that which occurs from the detachment of the placenta, when situated at the fundus or body of the uterus; so that in the natural development of that organ, it will not necessarily be departed, as in the unavoidable species, when the placenta is placed over the mouth of the womb; and when at about the fifth month the cervix uteri begins to expand, there will be more or less separation, and hemorrhage occurring as a natural consequence.

Hemorrhage may occur at any period from the first month up to the full period ofuterus gestation; but it is, externally speaking, generally in proportion to the advancement of pregnancy, yet a very alarming and dangerous proceeding may occur even prior to the sixth month; but when it takes place after this, although at first it may be moderate, we have no security that it will not soon become severe, and the danger imminent; for the vessels have attained a volume, that would admit of a dangerous hemorrhage.
in a very short space of time.

UTERINE HEMORRHAGE, as before mentioned, depends upon
the more or less detachment of the placenta from its con-
nections with the uterine surface. The remote causes that
tend to produce this state of things are numerous and va-
virous; to wit, Mechanical Violence, fright, mental emo-
tion, languishing, plethora. This is a very common cause, and
when there is plethora of the system at the monthly periods.
When the woman is more liable to abortion during the first
months of pregnancy, it is a very prolific cause; and is
perhaps the most common usual agent producing that event;
Nervous temperament, chronic disease of the uterus, constitu-
tional derangement of the system, such as by phthisis; putting
off marriage to a late period in life, and to use the language
of an able Professor, "the organs perform their functions awk-
wardly, and cannot complete the process for the first few
times", too early marriage, the organs not sufficiently
matured to perform this important act well. Then and
other causes, have called into action, the contractile powers of the uterus; threatening, and producing abortion and more or less hemorrhage. We know that these

things have, and will bring about this event, but their

modus operandi, of this operation, are not so well

understood, or at least, by me so easily explained.

But the principal and prime cause of uterine hemorrhage

thus during the first months, producing abortion, prema-
ture labour, or delivery at full term, is uterine contraction.

The connections between the ovum and the uterus

are intimate and very vascular. Upon conception the

uterus throws out a membrane lining its whole internal

surface called the decidua. The ovum enters

the uterus, surrounded by its own membrane, the am-

nion and chorion; the chorion and decidua soon

become connected by vascular attachments, which serve as

a band of union between the ovum and the uterus. Dur-
ing the first month, the umbilicus is thrown out to com-
met with the membrane cerotina, which is the rudiment of the mater placentae. From the first to second month the placenta is partially formed, and the fifth month is completely formed, but up to this period the membranes surround the fætus, and are in close connection with the whole uterine surface; and puncturing, or any cause producing a separation, would result in more or less hemorrhage. A rupture of the membranes during this period near the cervix uteri would not be attended with hemorrhage to so alarming an extent, as were the separation from the fundus, and there would be more probability of saving the foetus. But should the detachment be from the fundus or body, the descent of the blood would increase the separation down to the astincia, and render the case more difficult.

What is the reason, that hemorrhage is so constant a result of pain or uterine contraction during the earlier months of pregnancy? This question has been answered, as I conceive very rationally, and to me satisfactory, to suit,
during the first month, the placenta is spread out and over the surface of the uterus, and so closely interwoven with it, that the smallest contraction cannot take place without causing "a shock," and if great, more or less hemorrage. Whereas at the full term or near that period the placenta becomes lobular, and there is sufficient space between the lobes, to allow of considerable contraction of the uterus, without producing a detachment and consequent hemorrhage.

The immediate effects of a great loss of blood are great prostration, feeble pulse, great palor of the countenance, lips, and tongue, difficult breathing, constriction across the chest, syncope, and frequently death. But the quantity of blood lost is not so much to be dreaded as the effect it produces upon the system; some constitutions more able to bear the loss than others. Beside, the quantity lost, the danger depends upon the celerity with which it flows; if the loss be sudden and rapid, the immediate prostration
will be greater; but continued drainage, affect the general
constitutional more, and the patient will not recover from the
effects as soon; and then is more danger of constitutional se-
genesis, of a serious and dangerous character; such as drop-
-sis, pulmonary affections, and organic lesions of the uterus.

Diagnosis. It is necessary to distinguish acciden-
tal from unavoidable hemorrhage. In the unavoidable,
the presence of the placenta over the uterine will be indi-
cated by the fleshly, fibrous, and cellular tissute's communi-
cated to the touch, and be easily removed by the fingers.
The membranes present a smooth elastic sensation, and
may be distinguished from coagula by not being so easily
pushed up or broken down by the fingers. This will soon
also to distinguish the coagula from the placenta. The
membranes may be told from a foetus engaged in the mouth
of the womb by being more elastic, and to firm those. But
perhaps the main distinction between, accidental and unavoid-
able hemorrhage, is, that during contraction of the uterus,
The hemorrhage ceases in the former, and is increased in the latter.

Treatment. In the consideration of this subject in regard to treatment, I shall divide it: First, into that period embraced, between the first and fifth month; Secondly, from that period, to the end of utero gestation. This division is not so numerous as most authors divide the subject; yet I deem it sufficient to exhibit the general manner in which I shall feel disposed to treat it.

In ordinary hemorrhage, nature attempts to arrest it by the formation of coagula in the mouth of bleeding vessels and injections around the artery in the cellular substance, and the hardening out of lymph to cause permanent adhesions. But in the uterus not much hope of a natural suspension by these means, for there is not much cellular substance for the bleeding vessel to hang in air to become infiltrated around; nor any hope of lymph being thrown out as this is the result of an inflammatory process, and -
would not occur soon enough to be of any avail, as death would take place before it commenced; coagula would be of advantage, and should be aided whenever practicable.

But the great means of arresting this species of hemorrhage is, that same agent, which is the great proximate cause of its occurrence, to wit, uterine contraction, to produce this under same circumstances, is the grand object, and the only means of affording relief as well to the patient.

The indications in the treatment, are first, to relieve pain, and quiet the contractile excitement of the uterus, and the exhibition of aperient would be the means for accomplishing this object; secondly, to arrest the hemorrhage; to do this a variety of means are necessary, Vincerection, cold applications, astringents, frictions, Mechanical abstractions, and delivery.

During the first month there is not much danger from hemorrhage, but there is danger of the loss of
the arrest, more especially at the occurrence of the
Menstrual Malaise, or effort at menstruation. If
there should be symptoms of abortion at this pe-
riod, such as pain in the lumbar region, with a
kink of bearing down, and evidence of uterine
contraction; if the subject be plithoric, blood-
letting should be resorted to, to control the vascular
excitation; and Opium be given to relieve the pain,
and during the interval the bowels should be kept
open, light diet, and rest enjoined.

After this period to about the fifth month,
which embraces the period of our first division; if
the flow of blood be moderate and the pain slight, it
may usually be controlled, by the exhibition of Opium
to relieve the pain, and Acetate of Lead to restrain
the hemorrhage, in the proportion of a half to a grain
of the former, to from two to three grains of the latter
every two or three hours, according to the urgency of the
symptoms, until relieved, or they be found imminent. But when the hemorrhage is profuse they will not be of much avail, as time cannot be given for the system to come under their influence; they at least cannot be relied on to the exclusion of other remedies, yet they might frequently be given in connection with other means, acting as an auxiliary part. They would answer better in this condition, to be given by injection.

In all cases of uterine hemorrhage, an examination should be made for Vaginum, to ascertain the condition of the Os uteri, as its condition will often influence our treatment. If the amboyo or membranes be engaged in the mouth of the womb, and it be relaxed, we should at once deliver them, as frequently can be done, and at once put a stop to the bleeding. But when the flooding is profuse, with Os uteri, dilated, or in a soft debatable condition, the ergot should be given to produce the expulsion
of the arm, which will most generally be the case.

But when the hemorrhage is considerable, and the
mouth of the womb closed & rigid; the patient
should immediately be placed in a horizontal posi-
tion, upon a hard bed, or mattock, thirty covered,
the room well ventilated, restricted to cold acidu-
tated drinks, and mild unirritating diet, which
should also be given cold, and absolute rest and
quietude strictly enjoined.

The patient being thus situated, our next
indication will be to reduce the arterial action, and
most generally this condition will exist with a phleg-
monic state of the system. Vegetable water should
now be instilled too, and carried to an intent to
make a decided impression upon the system; for
I am of opinion, where bleeding is indicated, it
should be for the effect, not the quantity, taken
in all cases; and it should be repeated, if upon
reaction. The hemorrhage returns. The accidate of lead should now also be given freely, during this period, together with opium to relieve the pain. We cannot tell the amount of separation of the placenta, and very effort to save the uterus should be practiced. I do not believe that opium has any peculiar efficacy in hemorrhage, but it will slow and suspend the contractions of the uterus, under ordinary circumstances; and may thereby prevent any further separation of the placenta, and if the bleeding can be checked, coagula well formed, the case be perhaps entirely arrested and the embryo saved.

The accidate of lead, I regard as a depot of great power, and in uterine hemorrhage, it might all must be regarded as a specific, and should be given at least a fair trial; during this stage it would be preferable to administer it as an anime.

If the hemorrhage continues, cold affusion,
as matter and ice in a bladder, should be applied to the uterus; cold applications, I regard as having a
two-fold benefit; first, in controlling the arterial
action, but to secure this, they should be constantly
applied, after having been once commenced, to prevent
reaction until their full efficacy is attained, but
there is a limit to their application, when there is
great procrastination, and they produce chilliness, and
other unpleasant derangements; secondly, by the
shock given to the system, producing uterine con-
traction and benefit could be more readily obtained
in this way, by injections of cold water into the
vagina. Should these means fail to arrest the
bleeding, the tampon should be introduced; a
handkerchief, sponges or strips of linen will usu-
ally answer the purpose. But should the mouth
of the womb be relaxed, the cervix sitve; altered,
or the membranes ruptured, there will be no chance
to save the ovum; yet we must control the hemorrhage, and the tampon should be introduced for that purpose, and await the action of nature to bring on regular contractions of the uterus, to expel its contents.

I regard the tampon as a mechanical agent, stopping the flow of blood, thus forming coagula to the mouths of the bleeding vessels, and checking the hemorrhage. And I also consider it a mechanical excitant, by its presence in the vagina, and the production of coagula in the cavity of the uterus, to produce contraction of that organ, and is thus a very valuable means for arresting uterine hemorrhage.

I do not deem it advisable to puncture the membranes during this period to facilitate the delivery of the embryo, as there is a strong disposition during this time for the child to cann-
track upon the membranes, should they protrude, or to enclose them within, after the escape of the
ovum; increasing the difficulty to their expulsion, and the uterus is too small to admit of a manual
delivery.

Should the ovum have escaped, leaving the sec-
dims, with the as-yet contracted, and the hemorrhage
continuing; resort must be had to the placental
hook, to bring down them down; which may be
accomplished by carrying it up through the mouth
of the uterus, and hooking it in the placenta, by
gentle traction, break up its attachment, and
bring it away.

During the second period, which embraces
from the fifth month, up to the full period of
pregnancy; the same general plan is usually in-
dicated as for the first; with the addition, that
practicing the membranes may be resorted to.
with benefit, and the delivery of the child by forced means, frequently essential to the safety of the patient. When pain occurs during this period, of a moderate character, and the hemorrhage is slight, the exhibition of opium and the acetate of lead, may control, and arrest it; but the patient should be caution’d, to keep quiet, confined to an abstemious diet, together with keeping the bowels regularly open, for there is no security that it will not again return.

It is true that during the sixth month the uterus, would not admit of manual delivery, but when the mouth of the womb was open or dilatable, the esgut, or cattan root, would generally answer the purpose of causing the expulsion of the contents of the uterus, and remove the cause of the hemorrhage. But when the uterus was rigid and closed, the tampon should
he resorted to, and so far as necessary, the antihemorrhagic treatment, recommended for the first division, he used also. I have above spoken of the cotton coat, as a means of producing uterine contraction; I have no experience with it myself, but I have been informed by a very intelligent medical gentleman, that he has used it often with great benefit. I shall test its virtues the first opportunity I have, that indicates its use.

During this period, I have great faith in the use of the Tampan, as in the preceding, and should use it, up to the full period of gestation, in connection with other means indicated, in all cases where the os uteri was rigid and closed, and when flooding had accrued to fainting, as perhaps the only means of attempting to arrest the hemorrhage; but when the os-tinee was dilated, I should rupture the membranes, hoping thereby to
cause the uterus to contract upon the bleeding vessels, and thus suspend the immediate flow of blood; and whether the term of gestation had ceased or not, the loss of much blood would be very apt to bring on contractions, sufficient to eventuate in the expulsion of the foetus; and the opening of the os uteri, would be evident that that period had ceased, and final delivery inevitable. And if the rupture of the membranes does not arrest the hemorrhage, the tampon can be introduced, and should be, and if it control the flooding, await the natural expulsion of the contents of the uterus. But should all the means fail of accomplishing their object, which will sometimes be the case, this delivery should be attempted, either by turning the child or by instruments, if necessary, with all the at-
tendent consequences, as the only means of securing the safety of the patient.

I have thus given a hasty, but very imperfect sketch, of uterine hemorrhage during pregnancy, together with some of the causes producing it; its effects upon the system, and the mode, in a very general manner of treatment. I regret that, I have not been enabled to give the subject that consideration, its importance, as I conceive it demanded; but such as it is, I submit it to the scrutiny of the Trustees and Faculty of the Medical Department of the University of Nashville, with some misgiving, and sincere regret, that it is so poor an offering for the honors they have the power to confer.

I hope it will not be considered out of place for me, to here, return my thanks to the
Faculty, for the courtesy and respect, they have
each thus far, extended to me, in our intercourse,
and to congratulate them upon the success
that has attended them in building up a Med-
ical School at this place, and sincerely wish
that their labours may be abundantly rewarded.

Asheville January 1st, 1853. W. N. Picknell