Essay on Uterine Hemorrhage

by

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1850
Uterine Haemorrhage

In treating of Uterine Haemorrhage, I propose adopting the plan generally pursued by writers of the present day, namely, dividing it into:

1. Unavoidable
2. Accidental subdividing this last into:
   A. Haemorrhage occurring during Gestation
   B. Haemorrhage occurring during Parturition
   C. Haemorrhage occurring after Parturition but before separation of Placenta
   D. Haemorrhage after separation of Placenta
but in order to facilitate the study of it I have thought it requisite to
describe the Blood vessels of the uterus and the changes they undergo during
Pregnancy

To describe the Structure of the Placenta

To describe the Symptoms attendant on Uterine Hemorrhage before taking up the immediate subjects of my paper.
To describe the Blood vessels of the Uterus and the Changes they undergo during Pregnancy

The Uterus must be supplied with blood for its own nourishment and for the full performance of its own functions. But as these functions are only performed periodically, the quantity of blood sent to this organ during these periods will be greater than at any other.

The arteries supplying the Uterus with blood are four in number—two ovarian or Spermatic and two Uterine or Epigastric. The ovarian arise generally from the face part of the Aorta, a little below the origin of the Renal—but sometimes they spring from the Renal—they run down one on each side of the Aorta, cross the Vessels and rest on the Doe Muscles; after passing the external Iliac Arteries they incline inwards and running tortuously between the layers of the Broad Ligaments are distributed to the ovaries, Fallopian Tubes, Fundus and sides of the Uterus. The Uterine arise from the Internal Iliac Arteries from their anterior
divisions enter between the layers of the Broad ligaments and passing upwards at the sides of the uterus pursue an exceedingly tortuous course till they at last divide into numerous branches which enter the substance of that organ and are distributed to fully half an inch above the lips, to the cervix and upper part of the vagina—They are remarkable for their free anastomosis, with in the substance of the Uterus they seem to be placed in little chambers or canals.

The veins correspond to the arteries. They are very large and form the uterine pleureses; their thin walls are in immediate contact with the uterine tissue and are arranged in several floors or planes placed one above the other. Each venous tube gives off numerous communicating branches to the veins of its own floor or plane by a set of lateral vessels. When, however, a venous tube of one plane comes to communicate with a venous tube lying in the plane immediately beneath it the foramen between them is not in the sides but in the floor of the higher or
more superficial vein and the opening itself is of a peculiar constitution. Looking down into it from above we see the canal of the vein below partially covered by a semi-lunar or falciform projection, formed by the lining membrane of the two venous tubes as they meet together at a very acute angle, the lower tube always opening very obliquely into the upper. These falciform processes may act here on the same principle as the isthmician valve—preventing the recirculation of the blood—but in a less perfect manner. These valves were first seen and described by Owen, and his observations are confirmed by Prof. Goodrich in his anatomical and pathological observations. The more minute ramifications of the veins of the hinder and body are seen to unite as they approach the lateral boundaries of the uterus in order to form larger branches, these again in their turn receive large tributary accessions from the veins and lateral appendages of the uterus. The hypogastric or ovarian veins are formed
by the reunion of several branches of veins from the lateral and inferior parts of the uterus. Of numerous branches brought forward to them by anastomosis from corresponding branches of the spermatics and some smaller ones from the inguinal, hypo- and vesical and femoral pudic veins.

In the unimpregnated state the uterine blood vessels are few in number, being only destined for carrying on the nutrition of that organ. After impregnation however they have additional functions to perform besides that of simple nutrition—viz. to supply this organ with a greater amount of blood during the necessary changes that are required in its structure, and to convey sufficient materials for the development and nutrition of the foetal. For these purposes they become gradually enlarged and increased even during the very last periods of gestation. The veins are termed "sinuses", from their size and the uterine arteries from being
the smallest branches of the Internal Siles are at the close of Pregnancy their largest. On a section being made of the uterine of a female who has died towards the end of gestation the veins will be seen lying in tiers like the tiles on the roof of a house one above the other, each venous tube however being surrounded with its own layer of uterine tissue which forms its external coat while the internal consists of the usual serous coat of the venous system.

II. To describe the Structure of the Placenta.
The structure of the Placenta differs very materially in the lower animals from what it is in the female of our own species. In the Cow for example the placenta is always attached to one spot of the Uterus prepared by Nature in a curious manner for its attachment. At this particular part of the Uterus there are a number of depressions or Culci which receive corresponding projecting parts from the fetal surface of the placenta so that the fetal and maternal portions of the Placenta are distinct and only
connected by the projections of the fetal placental tufts into the maternal-placental cup-like depressions—these two distinct portions of the placenta may easily be separated by the application of a gentle force without the loss of a drop of blood. These projections may and are usually extended round the whole uterus and are called Cotyledons, of which the fetal part only comes away during delivery.

Of the Human Placenta—Cowper Vieussens Haller Senac and several other able physiologists held the opinion that a direct communication existed between the blood-vessels of the Uterus and placenta, and that the maternal blood circulated in the Foetus. It was not till the times of the Nurno's Hunters of Wrisberg that satisfactory evidence was adduced that this was not the case. A most important advance was made in our knowledge of the anatomical relation of the blood-vessels of the mother and foetus by the investigations of the Hunters. They satisfied themselves that the Umbilical arteries terminated in the Umbilical
veins and not in the vessels of the uterum and that the blood in the Umbilical arteries passes into the veins as in the other parts of the body and so back again into the Child. I have further observed, that numerous small curving arteries the longest being about the size of a crow-quill, passed from the inner surface of the uterum, that they penetrated the decidua and opened into the interstices between the foetal blood vessels of the placenta. Prolongations from the uterine sinuses were also traced through the decidua and were observed to terminate in the placenta in the same way as the curving arteries so that “in the Umbilical portion of the placenta the arteries terminated in veins & a continuity of confluent, whereas in the Uterine portion they were immediate cells—in which the arteries terminated and the veins began”. It was therefore concluded that the blood of the mother was poured by the curving arteries into a kind of cellular tissue or as Reid & Gordon has described it into one large cell subdivided into more minute ones but all still commu-
eating—filling up the intervals between the ramifications of the foetal-placental vessels from which it returns to the uterine sinuses of the mother, through their placental prolongations after having acted on the blood of the foetus through the thin walls of the umbilical placental vessels.

When the vessels of the umbilical cord enter the placenta they divide, subdivide into numerous branches which do not anastomose with one another but terminate in blunt extremities, or tufts; each of these tufts consists of the termination of the artery and commencement of the vein as I was proved by the late Dr. Reid. The interior of the placenta is thus composed of innumerable branches of the umbilical vessels every one of which is closely ensheathed in prolongations of the inner coat of the vascular system of the mother or at least in a membrane continuous with it. Dr. Reid). The uterine arteries before entering the placenta make a twist on themselves and then drop down into its substance, they then meet the veins not by a
The interposition of a capillary circulation but by a structure peculiar to this organ, namely by the artery suddenly dilating and forming a cell from which the vein arises. Into these cells the fotal placental tufts push themselves and float in the highly oxygenised maternal blood. Thus the foetus during its intra-uterine life is a cold-blooded animal.

III

To describe the symptoms attendant on the loss of blood from the uterus.

It is of the greatest importance to the Practitioner to know exactly the effects produced on the system by the loss of blood as it is by these that he must regulate his interference so as to save his patient ere she has lost such an amount from the effects of which she can never rally or his non-interference so as to afford nature time and opportunity to accomplish her own homeostatics.

These effects vary according to the constitution of the patient and the extent of the loss. They are as marked when the bleeding has taken
place suddenly propfully or when a large amount has been discharged & a slow cozing or draining the pulse becomes rapid varying from 90 to 160 per minute. On all intermittent the lips and face become pale losing their usual colour the breathing is laboured and hurried the eyes lose their lustre becoming dim and glazed the eyelids are closed the voice fluky and indistinct the extremities are cold & damp a cold perspiration breaks out on the neck arms & chest. Domicity usually at this period supervenes greatly aggravating the symptoms and lastly syncope results from which the patient may rally and gradually come round nature having during the interval afforded by the fainting pluged up the bleeding orifices so as to prevent further loss of blood or should the patient have time to effect this ere the patient rallies either by the interence of the ignorant bystanders or not the fainting supervenes again and again & again till at last death claims its victim. But ere this result has taken place more important symptoms have been superadded which are considered to be the certain
precursors of dissolution. The whole body now becomes damp and chilly: the heat cool as maybe felt on placing the back of the hand during inspiration near the mouth. The pulse intermits for a much longer period than before. The patient becomes restless, throws her arms about her and endeavours to throw off the bed clothes, she asks you to open the doors and windows of the room: to admit the fresh air in order to relieve the feeling of suffocation which is creeping over her as if a cord was being drawn tightly around her chest. She endeavours to alter her position notwithstanding all your urging motions to her to lie quiet, in the vain hope of obtaining relief. She changes and rechanges her position but alas! remains unstead still. The brain not receiving its due supply of blood there now follows head symptoms as delirium, convulsions, &c. and after a few deep gasping breaths, cessation of the cardiac and respiratory functions ensue and death steals rapidly over his prostrate and unresisting victim.

A hemorrhage from the uterus occurs under two distinct forms namely either in
sudden gushes or in a slow draining from the vagina. But it more frequently happens that both these forms are combined. When hemorrhage occurs in the earlier months of pregnancy it generally comes on at first in uncontrollable gushes and it may either cease entirely or continue in a slow oozying for hours or days together, giving rise in process of time to the symptoms which I have described before. It proceeds from the detachment of the placenta from the uterus, but sometimes according to Dr. Burns it results from the detachment of the Membrana decidua from the uterine walls; thus I should imagine can only happen during the earlier months when this membrane acts the part of the placenta.

With these preliminary observations I now come to treat of the proper subject of my paper, namely, Uterine Hemorrhage. This is divided by all authors from the time of Hippocrates into two kinds: unavoidable and accidental and this division is maintained by some to be very important as the
treatment required by each differs very materially.

Unavoidable Haemorrhage in Placentae Prævia.

Under this head I include all those losses of blood that must necessarily or as Jordan expresses it inevitably occur during the last three months of utero gestation or during parturition itself, from the unfortunate circumstance of the placenta being wholly or partially attached to the cervix or to uteri.

Hippocrates is the first of the ancient authors on midwifery who has taken notice of the placenta being sometimes found lying at or over the os uteri; it cannot but be supposed that many if not all practitioners prior to his time must have seen such cases but that they not knowing its special peculiarities classed all bleedings under one great head—Haemorrhage.

Hippocrates' theory of the cause of the occurrence of such cases was, that the placenta being attached originally to the fundus or body of the uterus was by some accident or other detached therefrom and by its own gravity fell to the os uteri.
This theory was tenaciously held and firmly adhered to for many long years after it had followed among the principal of whose may be mentioned Guillerman, Mauricieux, La Trotte, and it was not given up till Paul Portal and Clifford showed that this could not be the case and that in such cases the placenta was placed all one over the cervix or os. The rarity of its occurrence and the improbability of obtaining the postmortem examination of a case that would turn out to be a Placenta Praevia, at so sufficiently early a period prevents the elucidation of its cause but it is not altogether impossible that this opportunity of furthering our knowledge on this important subject will be afforded at some future period.

The first symptom that attracts the attention of the patient or her friends is a sudden and copious discharge of blood without any apparent cause. May it may happen at any time. She may be asleep in bed and on awaking find herself floating in a pool of blood. She may at the time of the occurrence sitting in a chair or walking about the house attending to
her household concerns when without any warning she feels the blood running down her thighs and should the flooding be excessive she may fall down in a state of syncope. If not excessive however she thinks nothing more about it and goes on her full time, or perhaps the flooding may occur once or again at the intervals of a fortnight or three weeks are the 280 days of her inter-foetal gestation he accomplished. From these circumstances your suspicions may be aroused but they cannot be confirmed till you have made a vaginal examination. This is done by passing one or two fingers of the right hand into the vagina so as to reach the os, but should this be inaccessible from the os still being high up and looking to the concavity of the sacrum—the whole hand must be introduced—this was a very painful procedure before the days of Chloroform but as the plea of its occasionality so very great pain to the patient cannot now be brought forwarded since this valuable anesthetic agent has been introduced it must be performed rather than keep ourselves in doubt as to the nature of the case—for the safety of our patient depends on
The treatment and the treatment on a proper diagnosis being made. On gaining the clot it will be felt thicker and more spongy than usual from its containing more numerous and longer bloodvessels and if it be sufficiently dilated as it generally is from the loss of blood on passing the finger through it. A spongy firm vascular substance not easily torn is felt and attached to its internal surface all round except at the part where the bleeding is taking place. The only substance it is likely to be confounded with is a coagulum of blood but from which it is easily distinguished the latter being softer more fragmentable and not so resisting to the finger as the former. In cases may occur where there is a coagulum plugging the vagina and the placenta present so that unless the former be first removed the latter is apt to escape detection. The additional circumstance of the bleeding taking place during the contractions of the uterus makes it the case if there are any present and ceasing during the intervals is another valuable diagnostic mark of such a case.
The precursory symptoms of the Partial Placental Presentation are very similar to those of the entire and is only to be distinguished by examination per vaginam when the os uteri will be felt partly covered by the structure of the placenta and partly by the bag of membranes.

The hemorrriage generally takes place after the fifth month and most commonly during the last three or four weeks of utero-gestation and this will readily be understood when the following circumstance is brought to our recollection viz. that it is during these periods that the greatest changes occur in the womb-cavity by their being gradually taken in so as to form the containing cavity of the uterus and that it may become a more perfect ovum and the placenta not growing so rapidly as to accommodate itself to these changes and being a non-elastic and erectile tissue is torn thereby from its attachment.

The source of the hemorrriage has long been and is a subject of hot dispute among accouchers of the present day some maintaining that its source is the uter-
This while others the placenta.

On detachment of the placenta, taking place from the uterus, two sets of vessels are torn through the uterine-placental arteries and veins. If the haemorrhage takes place from the raw surface of the uterus, the blood must be lost through one or other or both these sets of vessels, the impossibility of which I will show.

In speaking of the structure of the placenta in a former part of this paper, I have shown that the direction of the venous current in that organ was from the placenta to the uterus if then the haemorrhage came from the uterine veins which are exposed on separation of the placenta. The direction of this venous current must become retrograde and must become those series of false form projections or partial valves as they may be called which I have described as occurring in the uterine sinuses - which is impossible. It cannot come from the uterine arteries as it is a well-known fact that torn arteries do not bleed even though they are of considerable size as the naval chirn when the arm is torn off by machinery. Donkin and Hamilton were the first to
Attribute the cause of the hemorrhage as occurring via placenta.

If we were able to coagulate the blood in the maternal cells we could then ascertain whence the blood is derived. This nature has done for us for in some cases recorded by Dr. Dun of placenta previa, the placenta was found ossified or atrophied and on the accesion of labour no haemorrhage was occasioned.

The still attached portion of the placenta is receiving its due supply of blood and instead of pouring it into the maternal cells a part is lost by the solution of continuity that has taken place between this structure and the uterus.

Dr. Ashmore to prove that the hemorrhage is derived from the uterus and not the placenta in the medical Gazette for 1845 says—'A further corroborative proof of the little probability of bleeding when the placenta is partially detached is furnished by the fact that extensive puncture of its substance when in apposition with the uterine at the fundus or when implanted over the cervix is not followed by
homorrhage" and to prove this want of homorrhage in such cases, quotes a case published by Mr. Bayleham of Binningsham and another of Mr. Huintus. But these cases are double-edged for they tell as much against the homorrhage coming from the uterus as from the placenta and in addition he seems to have forgotten the fact known by almost every tyro in the profession that punctured vessels don't bleed and there the want of homorrhage in the above cases.

Another argument that the source is the placenta and not the uterus is that the flooding might rather to increase than diminish a case when a large surface of the placenta is exposed and a greater number of bloody orifices on the raw surface of the uterus is opened up while at the same time the contractions of the uterus may be wanting.

Havig said quite enough to satisfy almost an incredulous mind that the source is via placenta and not uteri. This turns on to a more practical part of my subject namely, the treatment of such cases. This is of two kinds, the Balliative and the Radical.
The Palliative can only be had recourse to when the hemorrhage is not great, the symptoms not alarming and the patient has not yet arrived at her full term. If you are called in such a case, you must lay the patient on a hard bed in the horizontal posture and with very few bed clothes about her so as to keep her cool. She is also to be kept quiet and the temperature of the room lowered by opening the doors and windows. In a very few cases you may require to abstract a small quantity of blood so as to lower the force of the circulation and to render the blood in the system more coagulable as internal remedy as the feet of Lead. Sallic acid may be given. The former combined with Opium in the form of pill will answer best the effect of the Opium being to allay irritation and prevent contraction (if present) of the uterine. Should there be any difficulty in bringing the patient under the influence of the Opium an Opiate Suppository may be exhibited.

Of the local applications Hamilton was
in the habit of injecting per vaginae, bark
bark infusion and other astringents with the
view of forming clots but the best applica-
tion for this purpose is a small sized plug made
either of lint or sponge steeped in tannine +
introduced as high up as the os it ought not
to block up the vagina completely for though
by this means it may prevent the blood from
escaping externally and you from seeing it yet
it does not prevent its internal accumula-
tion. Great benefit will be derived from ice
(if it can be obtained) being swallowed repea-
tedly by the patient in small pieces.

Should labor notwithstanding
by these palliative measures supervene and
the bleeding increase all further attempts to
carry your patient to her full time must
be abandoned and recourse had to the Ra-
dical treatment to save the life of the mo-
th and perhaps also that of her child.
This Radical treatment consists of three
Kinds - 1 evacuation of the liquor amnii
2 Turning 3 Separation of Placenta before
Child. When and in what cases each of these
different modes may be adopted. The first
1. Evacuation of the Liquor Amnii.

This is only expedient in those cases in which the Placenta partially presents and in which easy access can be obtained to the membranes to perforate them. By the escape of the Liquor Amnii, if the pains are strong and efficient, the head will press directly on the os and act there as a compress. If the pains are slow and inefficient, the rupture of the membranes will diminish the size of the uterus and thus render it to cause the desired effect.


Should the former plan of treatment be unsuccessful in arresting the hemorrhage recourse must be had to artificial delivery of the child—but not in such cases only. Such treatment be adopt—
ted for it is to be followed when the child is alive, the mother arrived at her full time and the os uteri fully dilated or dilatable. Should the os uteri be not dilated or dilatable at the full time the vagina is to be plugged so as to prevent the escape of blood or the formation of coagula. This is to be left in for some time till the action of the pains has opened it up and the loss of a small quantity of blood has rendered it dilatable when on the removal of the plug the os is to be artificially dilated by the finger. In its being fully dilated and the maternal passages being also in the same relaxed condition the left hand is to be gradually and cautiously passed through the os uteri so as to avoid all risk of chance of suspicion the child should rupture take place is one of the direct effects that could happen for it is well known that at the part of the uterus where the placenta is attached the blood vessels are larger and more numerous than at the other parts. The placenta then
When attached to the os teining the blood vessels are greatly increased in size and number at these points and they opened by the rupture the hemorrhage which ensues is sure to prove fatal. The hand is to be insinuated at the part in which the separation has taken place till the membranes are reached they are then to be ruptured, for the fluid completely blocking up the os teining will prevent the escape of the Liquor Amnii to any great amount. The farthest piece or foot is then to be laid hold of and brought down should the feet be sufficient after being lodged in the vagina to arrest the hemorrhage and labor pains present, the succeeding stages for the expulsion of the body and head should be left to nature. If not the extraction of the whole child must be accomplished by art and the placenta after this extracted. During the operation the right hand should be placed externally over the fundus and follow the extraction of the child so as to ensure the perfect contraction of the uterus. If after the removal of the child and placenta the uterus be in a state of perfect tonic contraction fluid.
in he taking place from the oe to the vagina is to be plugged and this is the only kind of post partum hemorrhage that such a line of treatment is warranted for the plug compresses the bleeding surfaces directly in such cases while in post partum haemorrhages of the accidental kind no binecance but rather encouragement is given to the accumulation of blood in the interval of the uterine such a procedure.

The passing the hand by each of placenta is preferable to passing it in that structure for the latter you must inevitably destroy the child for to save which you perform the operation and also after bringing the feet down you add to the circumference of the body by the placental structure tightly grasping it and thus prolong the delivery. But there are cases where the latter mode of extracring child through the centre of the placenta dry, when there is a morbid adhesion of the it to the uterine.

The proper period for performing this operation must be regulated by the degree
of the hemorrhage, the state of the passages, and the strength of the patient, but never by the presence or absence of labor pains. For should you refuse to turn in a case of placenta previa because the pains were wanting, your patient will in all probability die from the loss of blood without the uterus showing any symptom of contracting.

3. Complete Separation of Placenta.

This is a practice though often hinted at by some older authors yet was never fully put into practice till Dr. Simpson in the year 1842 recommended and practised it in cases in which hemorrhage occurred to an alarming amount early in utero-gestation before the os uteri was at all dilated or dilatable for turning with safety. When the pelvic passages too contracted to admit of the same, when the mother too much exhausted the uterus too contracted, and when the child is dead or not yet viable. For if the child was dead I do not see why the mother
should be put to any jeopardy by turning and extracting the child. We perform the turning to save the life of the child but in such cases dead or not yet viable we have no good result on part of child to compensate injury done to the mother.

The separation of the placenta is best done by passing a male catheter through the 50 between the two structures and moving it round and round till the whole of the attachment has broken up. It is as easily effected as Hunter in his description of the attachment between the placenta and uterine says "it is so slight that it can be broken with the slightest imaginable force". If the uterine should be little dilated and part of the placenta protruding it should be laid hold of and cautiously extracted as by this means you satisfy yourself that the separation has been complete. This latter procedure is not necessary. The only serious objection to this mode of treatment is the great danger to the child
In by the separation of the placenta the respiratory functions of the child is interfered with and death ensues much quicker than if its nutrition were stopped. The mortality to the child by turning is considered to be about the proportion of 1 out of every 2 ½ while that following separation of placenta before child is 1 in 3 showing a less mortality than the former line of treatment but the advantages will be better seen by giving the proportion of mothers by saved by this practice to what it is in turning. By the latter practice out of 399 cases 134 mothers died or 1 in 3 by the former or separation of placenta in 141 cases 10 mothers died or 1 in 14

Accidental Hemorrhage.

By this term is meant hemorrhages that occur when the placenta being attached to the body or fundus of the uterus is partly separated as I have noticed in a former
From the uterus during
peripartum

The discharge of blood which
takes place during this period is in conse-
quence of a solution of continuity occurring
between a part of the placenta and uteri
from some accidental cause so that the
blood vessels coming between them being
ruptured part with their contents which
becoming infiltrated between the membranes
and uteri effects a gradual separation
of them and obtains access through the
vessels or the may accumulate in the
interior of the uterus giving that latent
insidious form of hemorrhage
known as the internal and of which I
shall hereafter notice.

The source of the hemorrhage
is the placenta. The reasons for which I
need not here again repeat.

This hemorrhage is of
a passive kind and if left to nature
effects its distension (provided it be not excessive) in three ways. 1 By the retraction and contraction of the arterial tubes - the former being the result of the elastic nature of the tube - the latter being a vital act. 2 In consequence of the brain blood is entangled at their apices and coagula are formed which are at some future period replaced by an exudation of plastic fibrine which gradually becomes organized permanently close the orifices and 3 the permanent or tonic contraction of the intima compressing within and between its fibres the vessels and thus completely obliterating them. This third mode is an additional one possessed by the uterine alone and is the most powerful of nature's homostatic\textsuperscript{s}. The facility of this compression of the sides of the veins and the consequent diminution of their cavities is promoted by the naturally thin flattened form of the canals and by the fact that the proper contractile tissue of the uterine...
forms their second coat. The uterine veins,
consisting of the usual lining membrane of
the venous system placed in direct contact
with the muscular tissue of the uterus.

The separation may be caused by a variety
of accidental occurrences, by the local de-
termination of blood overcoming the slender
attachment existing between the uterine
placenta; this is frequently seen to occur
in the 5th month, but during that period and af-
ter it is more generally to be attributed to the
mental injuries received on the parturient also.

Mentally a fall, blow etc. by the umbilical
end being twisted or so often twisted round the
body of the child as to become too short to
that on the movements of the poetus in uterus
or on the descent of the head into the pelvis at
the period of parturition a separation takes place
between a part of the placenta and uterus. Etc.

From what has already been
said of the changes that are undergone in the
uterine vessels during gestation it will nati-
urally be perceived that the earlier the separation
occurs the less will he loss of blood be than.
This is verified in practice.

When hemorrhage occurs in the earlier months, it is generally the precursor of Abortion, either that it is has already taken place or is to follow in consequence. But Abortion is not always the result, for there have been reported cases in which a considerable amount of blood has been lost at an early period of the patient and yet by proper and judicious treatment she carried to her full time and became the mother of a fine healthy child. Abortion is as common in the higher as in the lower classes.

The causes of Abortion are arranged under two heads: 1. Those arising from the Mother and 2. Those arising from some morbid condition of the Foetus or appendix.

1. Those belonging to organic diseases of the uterus as Cancer, Carcinoma Ulcerating the cervix, depressed or weakened constitution as caused by fevers, small pox or measles. Mental emotions as joy, anger, fear, too active exercise as running, dancing. External injuries, etc.
plethoric condition of the placenta and uterus, causing a sort of apoplectic state of these organs by the determination of a too large amount of blood to them. By far the most frequent cause of abortion are those arising from the second kind or infected condition of the feet or appendages whereby the embryo perishes and is expelled from the uterus as a foreign body. The present becomes blighted or deprived of life from the presence of some organic disease in itself or its envelops after its death or when its involucra are diseased they lose their hold of the uterus and on this organ being excited to contraction as by the most trifling mental emotion or physical shock are easily detached and expelled. The most common cause giving rise to this condition of the uterus are atrophy of the vesicula umbilicalis, thickening and induration of the placental uterine and reflected decidua, and obliteration or obstruction of their venous canals, hypertrophy of the placenta or villi of the chorion deposits of coagula of maternal blood.
in the cavernous structure of the placenta
and chorion. Also
The symptoms of hemorrhage having
taken place during this early period are
elevated, internal pain at the part
where the separation has taken place
and extending to the back. There is a sen-
sation of coldness and weight in the
lower part of the abdomen. The action
of the foetus if they were felt before are
now no longer so. the breasts once pro-
minent are now flabby and even sometimes
may secrete milk. and lastly the
Discharge of blood in the vagina. If this
is applied to the vulva called by the mid-
d-wives the "show"
Treatments. To effect this state of
congestion which have shown and firmly
believe to exist as a precursor of abortion. must
be removed. and secondly should all attempts
to carry our patient to her full time fail
and then he much hemorrhage present we
must aid nature in removing the foetus and
accumulations and thereby provide the permanent
and tonic contraction of the uterus. These palliative measures recommended for the treatment of unavoidable hemorhoids are to be here followed as bleeding. Optum the local application of cold. The swelling of small pieces of ice repeated, keep the patient in the horizontal posture in a quiescent state and on a low antiphlogistic regimen to. Should however these remedies fail and the hemorrhage instead of abating go on increasaly it will be useless for us to attempt to carry our patient to the full time for from the excessive loss of blood already sustained the fetus will have died as that we must turn our attention to the safety of the mother and this can only be effected by the removal of the contents of the uterus and directly is to tonic contraction. For this purpose the vagina is to be dilated by sponge tents the last will be dilatable from the loss of blood and the presence of the tent in it will excite reflex action of the uterine. A dose of the Egypt of phy-
is to be administered and if the uterus is sufficiently dilated, the membranes are to be ruptured for by the evacuation of the liquor amniui the uterus will exert itself more perfectly. Contracted friction is to be applied externally to the fundus uteri. This means will generally suffice for the expulsion of the fetus so that seldom if ever manual interference is requisite. After the expulsion of the fetus it ought carefully to be examined in order to ascertain whether any portion of the involucrum have been retained or not; if the practitioner can with safety leave his patient. I will hereafter speak of the after-treatment of this and the other kinds of hemorrhage.

When hemorrhage occurs during the latter months of the stage of labour the causes and symptoms being the same the treatment also remains the same as that of the earlier months only that they require to be more decided and energetic as the danger is greater and there is less chance of the patient going to her full time.
Hemorrhage during Delivery

Hemorrhage is liable to occur during the period of delivery, but the blood is seldom pure, being mixed with more or less of the liquor amnii or amnion. When true hemorrhage occurs it is always to be referred to a partial separation of the placenta by the Cord being too short, or from the unequal and irregular contraction of the uterine fleshes at the part of attachment. It sometimes though rarely indeed happens in consequence of the rupture of the uterine or umbilical cord and when there are a plurality of children the hemorrhage may come on between the delivery of each chiefly from effusion from the part of the uterine to which the placenta is attached owing to a partial separation or complete detachment of it.

The symptoms are a gush of blood on cessation of the pains and its disappearance or recurrence or and its absence in their occurring and continuance.
this is easily understood from the circumstance of the vessels being compressed partly between the uterine fibres and partly against the incompressible ovum.

The haemorrhage may be of the internal as well as of the external kind, that is to say, that the blood accumulates in the interior of the uterus to such an amount as to prove fatal to the mother, or a drop escapes externally. This is the diagnosis by the occurrence of paleness of the face, lips, cold sweat, on the surface of the body. The patient complaining of ringing in the ears, flashes of light in the eyes, tending about and becoming restless, together with the other items in the catalogue of symptoms already described.

Treatment. The membranes are best ruptured early, as recommended by Cimage, Rigby, Bardeleque, and Laurent. For by this we increase the frequency and power of the uterine contractions and render the completion of the labour more speedy, a dose of the ergot of rye...
is to be given and friction employed over the fundus uteri so as to excite reflex action. If however all these means fail in terminating labour and arrest the hemorrhage and the patient approaches in a state of syncope—some diffusible stimulus is to be given to arouse the vital powers and recourse had to hystomy. In cases where the operation of hystomy itself must be performed in order to save the life of the mother by sacrificing that of the child.

After delivery she must be confined to the horizontal posture for some days or weeks if it should be necessary and observe the strictest antiphlogistic regimen till all danger be past.

Hæmorrhage occurring after Parturition but before expulsion of Placenta.

This is by far the most frequent period in which hæmorrhage occurs and in it the discharge is sudden and profuse. When it takes place during this period it
is usually owing to one or other of the following circumstances or at least is met with in connection with them. 1. To atony. Inertia of want of uterine action. 2. To irregular or spasmotic contraction of the uterus and 3. To some marked partial adherion of the Placenta.

1. To atony or inertia of the uterus.

This is generally seen to result in mothers who have borne many children in patients who have exerted themselves too early in labour thus overcoming the instability of the uterus when the uterus has been over distended as by Liquor Amnii or in our Hy. No cephalic child when from the contracted state of the brain of the pelvis lingered instrumental aid was required to effect delivery.

Diagnosis - On making an examination through the abdominal parietes the uterus will be felt large, flaccid, uncontracted and indeterminable being lost among the abdominal viscera instead of lying hard and contracted to about the size of a child.
head and felt above the symphysis pubis
or introducing the hand into the uterus it
feels like a piece of soft chamois leather.
No resistance is offered to the hand and it seems
almost possible to push it up as high as the
stomach. The umbilical cord will be
felt shrunk from blood not being forced
into it & the want of the uterine contractions.
This state of the uterus is the most fre-
guent cause of hemorrhage.

Treatment. The causes of utony being so
diverse the treatment must necessarily equal
by diversity. Prevention being better than cure
much may be done beforehand to prevent the
occurrence of this unfortunate state of the uterus.

Expectant attending to the patient's health
and constitution during gestation and when
labour has supervened prevent her from
exerting too great expulsive efforts at those
early periods at which they can do no good
but great harm. At some future stage
this is most commonly witnessed in primipara.
If still however after doing all we can to
prevent the occurrence of such a state of the
uterine perities we do not succeed we
must endeavour to remove it by restoring the
uterus to its pristine state and activity. For
until this be effected and the uterus be
firmly contracted the patient lies in a pre-
carious state. Full and repeated doses of
the Epsot is to be administered; free manipula-
tion exercised on the fundus uteri. Cold ap-
plied suddenly to the hypogastine region
and small pieces of ice swallowed if it
can be obtained, if not cold water, tea is to be
 drunk ther.

And what will be found the great device apply
in the child to the breast thus causing the contraction of
the uterus & reflexivity & the sympathy
that exists between the breasts & womb.

These means will generally be found
sufficient and no more need be done. If
they should not succeed and the harmony
continue the hand must be introduced to
the placenta of traction. As in general
as this the patient will be found weak & much
exhausted from the loss of blood some disposable
stimulus is to be given i.e. brandy.
or ammonia to anoint her. She is then to be placed on her left side, the cord held by with the right hand and to secure a better hold over and prevent it from slipping it ought to be twisted once or twice round two or three of the fingers, the fore and middle fingers then of the left hand are to be run up the cord a little way into the uterus. Advantage should be taken of the aspiration for by this action the descent of the diaphragm pushes down the firmness of the uterus and a little more of the cord can be obtained. A gentle attracting force must now be exerted by the right hand on the cord which running between the tips of the fingers of the left hand as on a pulley the placenta is gradually and slowly separated. On separation it is not to be immediately withdrawn but being enclosed now in the left hand, it is to be kept for a short time till by the presence of the foreign body in the uterus and the manipulation of the now disengaged right on the exterior the uterus in active organ is ready to contract slowly.
round the hand which is now slowly to the with Dawn. But in order to facilitate the extraction of the placenta the golden rule of attending to the different cases of the pelvis must never be overlooked or forgotten.

Sometimes the placenta will be found lying in the vagina and simply requires but as this more particularly belongs to post-partum haemorrhage I will say nothing more of that at the present.

After the removal of the placenta it must be carefully examined to ascertain if the whole has been removed together with the membranes. This may easily be done by laying it on a clean towel and inspecting both surfaces - if a part has been left the corresponding deficiency will be seen in the mass so that the hand must be reintroduced and endeavors made to extract it but should we not succeed easily in effecting this, it will be better to desist from further efforts if the haemorrhage has ceased and leave the case to nature. for she will be able in a day or two to loosen it & inflammation or remove
it by absorption but during this period injections of cold water or a weak solution of the chloride of lime will be of advantage in preventing the absorption of the degenerated matters and washing out the cavity of the uterus.

When the uterus has been ejected into contraction it ought to be kept in that condition & applying the binda with a pad or breakfast cup inverted over the fundus so as to prevent it from dilating. This should never be entrusted to the midwife but be done by yourself on every occasion.

2. From irregular or spasmodic contraction of the uterus retaining the Placenta

A hemorrhage from this is caused if the uterus not acting regularly the contraction taking place only in some of its fibers while the others remain uncontracted from the application of some ineffectual stimuli.

This spasmodic contraction assumes different forms. It may take place in the cervix, body or fundus. It may assume these
different forms of contraction of the longitudinal, transverse, or circular fibres take place separately and not simultaneously, or there may be double or triple contraction in each of which contractions formed there may be impacted a portion of the placenta or it may be wholly contained in one of them.

The causes of this irregular contraction are, the uterus becoming flaccid or over-taut, either from muscular spasms, of contraction of the body of the child or from protracted labour, an improper pulling of the cord in order to remove the placenta, introduction of the hand or instruments too soon, but the most common is the improper and injudicious pulling of the fetus.

The danger is not so great in these cases as in the former for most of the bloody vessels are closed by this partial contraction. May this state may exist and yet not a drop of blood be lost from the contraction, only round the torn vessels and no more. Thus effectually securing their Diagnosis. On external examination the
Uterus will be felt firm and contracted but elongated in one direction or another and on passing the finger the cervix will be felt usually dilated and on taking hold of the cord and running the fore and middle fingers along it you will come to the constricting point and be unable to feel the insertion of the Cord to the placenta. Strong after pains though present produce no effect in expelling the placenta.

Treatment - This only requires the relaxation of the spasmodic contraction which confines the placenta and obtaining the uniform contraction of the uterus.

The patient should be put under the influence of Chloroform to such an extent as to overcome this contraction or repeated small doses of Opium may be given for the same purpose but care must be taken not to be bring on that complete paralysis of the whole system as well as of the uterus which would inevitably bring on such a loss of blood that the patient could be raised from the narcotic state.
has breathed her last. So that I would rather trust to the Chloroform for the narcotic effect produced by it though it be deeper than that of Opium yet it does not last so long. The hand is then to be passed through the construction in the uterus and the placenta removed. If the placenta be wholly attached to the uterus the separation is to be effected in the same manner as I will describe it to be performed when it is adherent. The uniform contraction of the uterine parietes is to be ensured as the effect of the Chloroform goes off by the means as often recommended. The placenta however in these cases will be found lying loose in one of the containing cavities and only prevented from being expelled by the interposed osseous like action of some of the uterine fibres.

From some marked partial adhesion of the Placenta to the Uterus

If the adhesion is entire and her

Mortage can result, so that the danger is only great and the management most difficult in partial adhesions.
The nature of these adhesions is little understood and as generally, the result of inflammation excited by the lining membrane of the uterus at or near the attachment of the placenta by a blow, fall, or other internal injury whereby increased vascular action is excited in the part, coagulable lymph is thrown out and this becoming organized forms the adhesions which are so strong as not to be overcome by the action of the uterus and requiring manual interference.

It may exist in various degrees sometimes the whole surface of the placenta is adherent at others the adhesion may not be greater than a tiny piece.

From what has been already said the less the adhering portion is the more expiation will be the losing change as a large portion of the placenta will be separated and a large number of its vessels will be ruptured.

The diagnosis of this case cannot be accurately and certainly arrived at except by an internal examination but in general we may
form a pretty correct idea as to the nature of the case if though there are pains present the placenta does not descend and the cord lies on somewhat on the situs and then suddenly let go it springs up with a kind of jerk. The hand through the abdominal parietes will feel the uterus hard and large or alternately hard and soft. The placenta however may be felt with the finger at the os uteri or even a portion of it lying in the vagina (but still remaining adherent to the uterus) though this can only happen when its attachment has been drawn down from its usual attachments. After waiting for an hour after the expulsion of the child we find the uterus still unable to expel the placenta we must carefully introduce the whole hand and endeavours to find the edge of the placenta at which we should begin the process of separation. Where however the edge is very thin and the adhesion firm it is not easy to effect this without risk of injuring the structure of the uterus itself with the nails on our can.
We always distinguish the thin and closely adherent edge of the placenta from the uterus itself. In these cases it will be safer to plunge the fingers into the central and thicker portions of the mass and gradually separate it towards the circumference. In these cases it is almost impossible to take away the whole mass so that experience now proves that it is safer to desist from further attempts to remove the still adherent portion and to leave the case to nature.

D. Amenorrhage after Expulsion of Placenta
or Post Partum

After the placenta has been expelled, Amenorrhage is apt to ensue chiefly in consequence of atony of the uterine. This state results from the same causes that give rise to atony of the same organ before and after delivery, but before expulsion of the placenta.

Post partum Amenorrhage is of two kinds: the external and the internal. The latter from its insidious and latent nature is the most dangerous.
In the extremal case, the blood escapes externally, soils the bedclothes, etc. The patient may be lying in a pool of blood and yet be so faint from the loss as to be unable to call for attention to it. In the extremal case, the blood accumulates within the uterus from a coagulum or plug! (abundantly applied with the vain hope of stopping the hemorrhage) blocking up the vagina and preventing its exit; and the only circumstances likely to arrest your suspicions are the occurrence of these train of symptoms of which I have spoken so very often.

The diagnosis of the extremal is complicated. If easy, your attention is either drawn to the discharge by the patient or the midwife, or more frequently, by witnessing some of the hemorrhagic symptoms. You inspect the napkin placed on the pudenda and find it soaked with blood and on making an examination of the bedclothes, with your hand wound round the latter large clots of blood will be felt. Of the extremal, this from its sudden nature is likely to be overlooked by an ignorant or careless practitioner. On examination of the uterus through
abdominal parites, it will be felt. Soft flage being filled with fluid venous aggregated blood and on a slight pressure being made on it, the blood will escape with a gurgling noise or an act by the patient if she is able to cough. Large clots will be expelled from the uterus. Thus clearing accounts for the symptoms and these are of the slightest kind. The amount of blood lost must in all cases of uterine haemorrhage must be judged from the effects on the system and not from what you see on the bed clothes.

Internal Puerperal haemorrhage may also result, from intermission of the contraction. Although the uterus was firmly contracted yet it was not of the true kind so that from some cause or other it relaxes. During the relaxation of the uterus thus produced, the blood accumulates in the uterus and oozes out to a certain extent. The uterus however has not lost its irritability as it does in the case of atony or verteuce so that the distention taking place in the interior acts as an irritant cause and the uterus obeying the stimulus contracts and expels the pent up.
This process of relaxing and contracting of the uterus may be so often repeated that we long decline and the scene.

Treatment of the uterine form. As long as the symptoms are not urgent and there is not much danger from the loss of blood, it will be better to give the uterus time to collect its strength and remodel and arrange its forces that to interfere with it. To assist nature as much as we can, fresh air must be admitted into the room. The patient kept confined to the horizontal posture with few bed clothes over her. See in small pieces a small quantities of cold water or tea should be swallowed repeated and if there has been much blood lost. Some effusable stimulants may be given to refresh and in stimulate the system. Should the case be urgent some more powerful interference will be required to induce contraction and prevent there further hemorrhage. The tincture of rye in 3 or 4 doses must be given every quarter hour. Friction applied to the fundus and tapping the child to the heart. And lastly if the above should
not succeed the most powerful effect of the reflex action must be tried and that is cold suddenly applied and not continuously. The best way of applying it is to keep a towel in cold water and then suddenly apply it over the abdomen, one application will not suffice but several and between each the wet abdomen must be dried with a warm towel so that the shock of cold may be the greater. The advantage of this mode over the others that is today the dashing the water from an height is that you do not necessarily require to expose your patient that it may be properly performed when the uterus has been got into a state of contraction it ought to be replaced by the brode of pad or inverted cup.

Anmeli ought not to be given if the patient is in a very low state as they are apt to bring on convulsions which disturbs and greatly aggravates the disease but what is remarkable that though they may occur sponte and it seems to contribute to the suppression of the hemorrhage & not a more
Vigorous action of the remaining powers of the
system according to Denman.

Should all these means fail
she is in my humble opinion past all human
aid and as a last resource the abdominal
artery is to be compressed this is best done by
firmly bandaging a bow k through the abdom-
nal-parietes.

Of the Internal Form. It almost begin
our treatment in such cases by removal of
all the coagula from the interior of the uterus
and then follow the steps spoken of in the
external kind. If a case should happen in
which the uterus instead of remaining perma-
nently contracted but contracts and dilates
alternately as I have said before the treatmen-
tconsists of applying the binda and compresses
as the glands during the contraction do as to keep
it this state.

In all these cases after excessive loss of blood and the uterus reduced into
a state of contraction transfusion may be per-
formed if there is no possibility of the patient-
being able to sustain the certain reaction of the
System that will assuredly ensure the best
substance to homogeneous is blood taken from the
arm of the husband or one of the bystanders.

Having now brought my subject to a close there only remains for me to say
a few words on the after management of patients who have sustained a vast amount of
hemorrhage. She must be confined to the
horizontal posture and on no account whatever
to rise from her bed. Her nourishment must be
of the blandest kind with a small daily
allowance of stimulants. A port wine, the apartment
is to be darkened and kept properly ventilated
the relations and friends are not to be permitted to gather round her or to speak
to her, and she is to continue under the
electrical and phlogistic regimen for some
weeks or months till her health and strength
be restored when she ought to adjourn to
the Country or Sea Side for a change of air.