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Inaugural Dissertation
on the
Nature, Causes, and Treatment.

of
Premature Labour and Accidental Haemorrhage.



by

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It was my original intention to have considered in this dissertation, the subject of uterine hemorrhage generally, but as circumstances have occurred to render this impossible, I have been obliged to conclude with little more than half my object accomplished.

Introductory Remarks.

With the exception of rupture of the uterus & the more serious affections of the puerperal state, uterine Haemorrhage, deserving the name of flooding, is perhaps the most frightful accident that can befall a pregnant woman, and in those cases where it does happen may certainly be considered as no small part of the sorrow in which woman is destined to bring forth*. Even puerperal convulsions, to the educated mind, are not so fearful to witness as those discharges, for in the former art always enables us to do something towards mitigating their violence, but not unfrequently, in the latter, while every moment that is lost carries her nearer the grave, we have to stand by helpless Spectators of the heart-rending scene, the horrors of which are certainly not diminished by the fact, that we are but too fully aware not only of the true condition of our patient but of our own state of utter helplessness.

* i.e. a result of the immense muscular efforts

It is from the very vague and imperfect knowledge which the Older Obstetricians had of the true nature & causes of uterine haemorrhage, that we search in vain thro' their works for any rules of treatment founded upon sound principles, applicable in the various circumstances & free from empiricism. On the contrary, we find that the principles of many of these authors are but fond theories, built upon a few successful cases with which fortune has favored them in their practice & which, unless by chance confirmed, are deemed to be shattered if not shipwrecked in the very next case they attempt to apply them.

Upon a case of flooding coming under their notice (unless the loss was such as to cause imminent danger to the life of the Mother & therefore call for immediate delivery) they seem to have had but very imperfect ideas of the local effect required & therefore what practice to pursue - whether at once to proceed to the delivery of the woman as directed by Chapman, or to follow the advice of M. Puzos* and wait patiently for the occurrence of labour pains which according to him

rarely fail to bring the case to a successful termination.

Now these modes of practice are with slight modifications the two extremes between which we must range.— Thus in a case of accidental haemorrhage we frequently find that simply rupturing the Membranes will induce uterine action and subsequent stoppage of the flow—while in cases of Placental presentation active interference is rendered almost indispensable, for every contraction of the uterus is inevitably followed by another gush of blood, a few ounces of which will frequently turn the scale of life or death; that is what in the former case saves the life of the Mother, in the latter hurries her on to the grave.

It is evident therefore, that our treatment, to be successful, must depend upon a thorough knowledge of the true nature and cause of the haemorrhage—for by this we can explain, why, two cases, presenting externally the same symptoms, occurring in patients in parallel circumstances, and where the same treatment has been adopted, yet give very different results—why in the one the flooding yields to simple palliative treatment and the

patient is safely delivered by the natural efforts, while in the other, independent of the very same means having been adopted, the hæmorrhage, so far from being arrested, goes on increasing, and renders the operation of turning, the application of the forceps, or even Craniotomy imperative, not only (in the case of the first two) for the sake of the child, but for the safety of the life of the Mother.

It is probably to the difficulty of obtaining post mortem examinations - especially in cases of this nature - that we must ascribe the very imperfect acquaintance, of the Old Accoucheurs, with the true pathology of uterine hæmorrhage, previous to the year 1775. when Dr Rydy of Norwich published his short work on that subject, pointing out the proper line of practice, in each case, as depending entirely upon the nature, and extent of the lesion - a work, as the author of which (with all due deference to the observations, of Drs Smellie, Hamilton and Burns) his name will ever be remembered and esteemed by the profession.

Before this, the state of uncertainty and confusion of haemostatic principles, and practice, may be pretty well imagined from the attempted classification of the different uterine haemorrhages adopted by many of the teachers of Midwifery, in the beginning of last century - and on which they seem to have founded their practice. 1st Whether the discharge came from the uterus itself, or from the Vagina. 2^d if from the uterus, whether from the fundus or Apex. 3^d if from Os or Cervix, whether from rupture of some of the small vessels supplying the organ, or from some injury to the involucre -

When the haemorrhage was supposed to come from the Os, it must frequently have been treated as arising from some of the uterine vessels (the discharge being sometimes profuse and these vessels much larger than either those of Chorion or decidua). This is evident from the fact that the original attachment of the Placenta to this part of the uterus seems to have been unknown to many obstetricians who wrote during the last century (as Dionis 1719: Daventa 1734: Giffard 1754: La Motte 1746:

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Ruyssch 1751. Mauriceau 1752.) Several of these Authors mention the circumstance of the Mass having been found at the Os in cases of haemorrhage, but do not seem to have remarked anything peculiar in the nature of the discharge or had any idea of its being originally so situated, supposing it to have become detached from the fundus, and pushed down, or gravitated per se, to the lower part of the organ; from whence Mauriceau advises its immediate removal as if it were a simple coagulum, or "foreign body". The existence of Placenta Praevia appears to have escaped even the notice of Dr. Young. But, that it was known in the early part of the 18th Century, that the placenta was occasionally attached here, and that fatal haemorrhage might result from its being so placed, is put beyond all dispute by the report of a case of this nature in the "Annales des Sciences" of Paris in 1723. and Smellie mentions several cases where the same peculiarity was detected.

Any classification of the different uterine haemorrhages

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to be practically useful, must be arranged according to the period of their occurrence, in the first place, and according to the nature and source of the discharge, in the second. So in the following short account of the nature causes and treatment of uterine haemorrhage, we will adopt the arrangement noticed below, as it is one of great simplicity and self evident practical importance.

II. Haemorrhage - as it occurs in the earlier Months of Gestation, or in cases of Abortion.

III. Haemorrhage in the latter three Months of Gestation.

1. Before the birth of the child.

a. Accidental - or in cases of partial detachment of Placenta.

b. Unavoidable - or in cases of Placenta Previa.

2. After the Birth of the Child.

a. Before the expulsion of the Placenta.

b. After the expulsion of the Placenta.

IV. Haemorrhage subsequent to Confinement.

Part I.

Abortion.

By the term Abortion we mean the Separation, and subsequent expulsion of the imperfectly developed Ovary, from the Uterus, previous to the 6th Month, or any period before which, it can be supposed capable of supporting an independent existence; and no fetus born before the 24th Week can be considered as possessing sufficient strength to ensure its permanent vitality.

The premature expulsion of the Ovary has been variously divided and denominated according to the period of its occurrence - Continental authors apply the term Abortion

to cases happening before the 16th week, Miscarriage between the 16th and 28th and premature labour from this to the completion of Gestation; this has been supposed by some to possess some advantages over the division of Dr. Denman, who considers all cases as abortion which occur during the first six months, and as premature labour, during the latter three; this arrangement we prefer, as Abortion and Miscarriage are, practically considered, the same, differing slightly in degree.

Abortions are more liable to occur during some periods than others, the time of their occurrence being generally in an inverse ratio to the danger attending them. The most common period is between the 2^d & 4th Months - and next about the 6th & 7th; those happening during the latter period generally depend upon a peculiarity in the situation of the placenta, interfering with the natural obliteration of the cervix, which generally commences at this period - and the frequency of cases from the 2^d to the 4th Month is to be explained on the fact, that during this stage the various fetal structures undergo a com-

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-paratively greater degree of development, than they do during any other similar period - the blood therefore is now greatly increased in its determination to the uterus, thereby, as we shall see, rendering it obnoxious to causes, which otherwise could have no effect. "The liability (says Dr Dewees, p. 929) to abortion is greater in the early than in the later periods, for as the union between the chorion and decidua is not well confirmed, as the attachment of the latter to the uterus is comparatively slight, and as the extent of surface the ovum now presents is very small to that which it offers in the more advanced state of pregnancy, & as it can of course be affected by smaller causes, it will be seen that a separation will be more easily induced & prove much more injurious to the well being of the embryo than a larger one at an other stage." This explanation comes from high authority - but differs considerably, in a more immediate point of view, from that I have attempted to give. - In August last, I was called to the wife of an Irishman who was in her 4th Month, and threat-

ended with abortion. having in her three last pregnancies miscarried in all of them in the middle of the 4th Month within a few days of exactly the same date.

Causes

of Abortion may be considered as Direct and Indirect, but more fully & correctly perhaps, as, Proximate. Predisposing & Exciting. The Proximate or direct cause is the contraction of the uterine fibres, whereby the attachments of the Ovary to the uterus are destroyed, and the fetus expelled; but many accidental circumstances, altho' generally acting only as exciting causes, must occasionally act by their violence as direct, causing at once the rupture of the minute vessels by which the Ovary is nourished, before the formation of the Placenta, and consequently its immediate death.

The Predisposing causes may be either general, or local.

General weakness of the patient is often described as a cause of Abortion, but this alone will seldom act as such unless combined with, or resulting from some disease capable of affecting

-ing, the child also, either by tampering its system or interfering with its nutrition - thus a great degree of pulmonary disease may exist during gestation, but it never causes abortion; an amount of phthisis, ~~sufficient~~ sufficient to cause death a few days after delivery, may be present, without any interruption of the natural duration of pregnancy. But debility arising from dyspepsia, morning sickness, disease of the liver or any affection of the chyle-formative viscera, may be easily supposed to affect the fœtus, but in reality it is the defective state of the nutrient system of the mother that is at fault, the abortion and debility being collateral effects.

Two states of the system are supposed to act as predisposing agents - Anæmia and Plethora. Some deny that the former can have any effect at all - but according to Leake "women as often miscarry from want of blood as from redundancy" - which again some consider as deducible from the well known fact, that women are

more liable to abort when they conceive during lactation, the determination of blood being supposed to be more towards the Mammae than the Uterus. Dr. J. Smith however would explain this by attributing it to irritation of the Mammary Nerves in the first place, & to what he terms the "synergie" action between the Mammae and Uterus in the second. Burns again remarks that those women who menstruate sparingly very frequently miscarry. But in the Anæmic state the nervous irritability is greatly increased, rendering the Uterus accordingly much more obnoxious to exciting causes, which in the healthy state might have been attended with impunity. Dr. Inglis considers abortions in these constitutions as dependings, not upon Anæmia directly, but upon the circulation in the Uterus acquiring an activity incompatible with its connexion with the Uterus - and not only considers this the way in which Anæmic irritability may act, but also the *Modus Operandi* of Scarlatina - Variola - Measles, Mercur-

-icism &c. But says Dr Dewees were a mere increase, of this sort, in the circulation all that is required what woman would escape aborting, who may labour under high arterial action. — That Plethora acts as a frequent cause of abortion there can be no doubt. Dr Craigie in his elements of Anatomy explains how, that it is not the premature efforts of the uterus to contract that caused abortion (altho' such is considered the cause by Dewees) but the abnormal congestion of its vessels, which terminates in hemorrhage, the occurrence of which thus excites the uterus to premature contraction. The vessels of the uterus and placenta naturally full of blood may, from various causes acting upon the mother, become unusually distended with blood, rupture takes place, and it is discharged as in other hemorrhagic affections. This extravasation taking place between the uterus and membranes, as it may be placenta, detaches the ovum from the womb, the supply of blood is thus cut off and the fetus dies in consequence. Dr Rigby (in the Lib. of Medicine) remarks

That, "a state of general plethoria acts by impeding the free return of blood & especially at what in the unimpregnated state, would have been a menstrual period; for, occurring in conjunction with the increased vascular action, at these periods, in the uterine system, it produces, as it were, an apoplectic state of the uterine sinuses, which form the maternal portion of the placenta; blood is extravasated between the ovum and uterus; their connexions are destroyed, and the death of the fetus is inevitable." Constipation, when carried to the extent which pregnant females occasionally do, must act as a powerful predisposing as well as an exciting cause, interfering, as it does, with the circulation of the pelvic viscera.

The local predisposing causes are also important. Weakness of the uterus itself is to be enumerated among these referable generally to some disease of the organ, - debilitating discharges, previous miscarriages. &c. The different forms of retarded menstruation also act by predisposing the organ to abort.

The exciting causes are referable in part to the mother and

in part to the Jatus, those referable to the Mother may be either local or Constitutional. Among the local we have acute Leucorrhoea, inflammation of the uterus, ^{(of the adhesions resulting)*} of the Ovaries or of the Vagina, too free sexual intercourse &c. These may act as either directly exciting the uterus, or by reflex action. Indolent tumours of the uterus have been by some supposed to interfere with the progressive distention of the organ, thereby causing great irritation & subsequent contraction - but I should suppose this is not the only way in which they may act - altho' previously of an indolent nature, the increased supply of blood to the part during pregnancy may suddenly call their active development into operation and thus vitiate the whole process of utero gestation - The Spasmodic affections of the uterus described by Dr Burns must also be considered, where they exist, as exciting causes of no small importance. Protopus and other malpositions of the uterus frequently cause the premature expulsion of the Oum - Constipation (also) acts injuriously by causing much local irritation, as also do certain purgative med-

* Madame Boivin.

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icines which from their supposed specific action on the uterus have been termed Emmenagogues - but they do so thro' irritation of the Rectum & subsequently of the Uterus - The incautious use of Ergot has been suggested by Dr Rigby as a probable cause of abortion - but its capability of doing so alone is very doubtful, for whatever specific action it may have upon the uterus, when in what may be termed a predisposed state for it, its power (as that of all others believed in by the Vulgar) of inducing miscarriage & sometimes employed in the perpetration of that crime, can never act in such a way without violently ^{affecting} the system and bringing life into danger - at least Dr Wright's experiments on the lower animals go far to prove so. Any injury to the Mother, as blows, falls, violent exercise on horseback or foot - Syncope, Vomiting, tight lacing - sudden fright or any violent mental emotion may all be enumerated as exciting, altho' also sometimes doubt, causes - Some have denied that any mental emotion could have any such effect - but scriptural authority can be advanced in support of it. "and when Eli's daughter in law,

Phineas' wife heard the tidings that the Ark of God was taken, & that her father in law and her husband were dead, she bowed herself and travailed; for her pains came upon her. I Sam. IV. 19. the direct cause of death here has been a source of dispute, but I think the idea of its being from haemorrhage is not at all unlikely. For she recovered from the immediate shock & named her child "and died", (Gross), the mental shock was not by any means favorable for tonic uterine action, on the contrary atony or inertia was a very likely consequence. For who has not felt in cases of this nature the benefit of keeping up the patient's spirits. all her hopes & perhaps the whole chances of her life hanging on the expression of the practitioners countenance -

Some of the above causes might perhaps be more correctly considered as Constitutional, but we would include under this head, more especially, such diseases as are supposed to interfere with the healthy state of the system generally. such as Syphilis, Mercurialism & more especially Mercurio Syphilis.

When the maternal system has become fairly tainted with the disease, there can be little doubt that the fetus in utero is very often destroyed, or if she go her full time the unhappy sufferer generally struggles on a weary existence for a few weeks, or it may be months, and then perishes, a but too strong evidence of its parents' indiscretion. Where the affection is purely syphilitic & the system not entirely ruined there is much more hope, than, where, in an already syphilitic habit, the full action of mercury has been induced, smothering in one miserable scratch, and a mother, the fearful effects of two of the most disgusting (but unfortunately worst treated) diseases we ever meet with; But it would also appear that the child may inherit the disease from the paternal side, the mother's system during the first few months being perfectly pure, but as pregnancy advances the mother's health begins to give way, she in turn having, from the close physiological connexion between them, received the infection from the child. Small Pox - Measles. Fever and especially inflammatory diseases all endanger the life of

The fetus in utero.

The exciting causes referable to the Uterus - are diseases affecting either the fetus itself or its membranes. Of a case of this nature we have a beautiful delineation in Dr Ramsbotham's works, where the death of the child resulted from thickening of the coats and occlusion of the funis; and in plate 89, he gives an illustration of what is termed apoplexy of the Uterus - where the Amnion & Chorion are elevated at intervals by the extravasation of blood below them into what was destined to become the future Placenta or between these and the decidua. Dr Meigs overestimated the importance of these, considering as he does that no small share of the cases of Abortion are referable to affections of the fetus. Occasional & important as these cases may be, they are certainly much less so than those already considered, & therefore I can by no ^{means} agree with Dr Lee of London that - "by far the most frequent cause of Abortion is in the product of conception itself viz. a diseased condition of the fetus or its involucra".

Symptoms

of Abortion may be considered as premonitory, indicating as it were the first tendency towards interruption of utero gestation; and consequential or those arising from the process having already commenced. — Of the premonitory, the most important is the arrestment & relief from what Dr. Keble terms the "breeding symptoms" — as Morning sickness, headache, Mastodynia, &c. The breasts cease to have that fulness of feeling which to some women is so characteristic of pregnancy; and if gestation be far enough advanced, the former movements of the child cease to be felt. — Of the consequential, the most unfavorable, especially when occurring together, are those produced by separation of the Placenta and contraction of the uterus. "the first is productive of hemorrhage the second of pain. For the one is attended with rupture of vessels, the other with contraction of Muscular fibre" — "The first of these may exist without being followed by the second, but the second always increases and completes the first." (Burns) But the

discharge of a serous fluid from the Vagina may take place, without depending upon separation of the utero-fetal vessels or connexions - the chorion may be ruptured and its fluid escape without causing miscarriage, for so long as the sac of the amnion is uninjured the true fetal waters are not discharged and the nutrition of the foetus remains unimpaired. When abortion is threatened the discharge is generally preceded by irritation of the bowels and urinary bladder, uterine pains, at first slight but generally increasing as they recur - or there is a feeling of fulness & weight in the lower part of the abdomen, with frequent pains shooting down the thighs, pains in the back & loins and over the pubis, accompanied not unfrequently with fits of hysteria & symptoms not unlike those of ergotism.

If the accident happens after the 12th week, the expulsive process bears a strong analogy to uterine action at the full time - the Lig. Amnii, fetus & placenta expelled one after the other. Occasionally the ovum is expelled entire at all periods of gestation.

Treatment

of Abortion resolves itself into three divisions according to the nature of the case and the stage at which it comes under our notice. 1. Prophylactic or Preventive, where, either from previous miscarriages or from the peculiar constitution of the patient we have reason to apprehend its occurrence. 2. The proper means to be adopted when it is already threatened. 3. Management of the patient when it cannot be prevented or where the process has already begun.

Prophylactic treatment to be successful, must depend upon a thorough acquaintance with the constitution and habits of the patient. but a few general remarks will be found (in general) equally applicable to all cases. And of these we may first notice the absolute necessity of attention to proper diet and the regulation of the Primæ Viæ, together with rest and quietude both of body & mind; for if either constipation, diarrhoea, excessive morning sickness, or any severe affection of the digestive system, be permitted to exist, even for

a few days - and unfortunately those who are most liable to suffer from habitual or early abortion are usually of such habits as are most exposed to these attacks - all our further precautions will be frustrated, and if occurring, at that period when miscarriage is particularly apprehended it will almost inevitably be productive of injurious consequences, these are also particularly to be avoided ^{at} ~~about~~ what corresponds to the menstrual period. Altho' perfect rest of mind & body should be enjoined, habits of indolence should be far from being encouraged, for the mind, if not otherwise engaged, naturally reverts to the subject which is the present, & to her apparently unnecessary, cause of confinement. she broods over her misfortune, magnifies its consequences, her spirits are enfeebled, already existing irritability increased, she loses hope and not unlikely confidence in her medical attendant. On the contrary there can be very little harm, unless the danger be very imminent, in some very gentle & cautious exercise especially if the patient reside in the country, but if she remain in

town, as the noise & bustle outside might annoy her, she had
 better confine herself to the house, turning her attention to
 some light and agreeable occupation or reading but never
 such as to agitate or fatigue her. And on every account to
 have the usual household duties and domestic arrange-
 ments to the care of others. Again if she have ^{frequently} aborted before,
 and especially if at the same period, we must be more
 strict in our precautions and the patient more limited still in
 her freedom. She must not be allowed to quit her room or at
 least the flat on which she sleeps, and without imposing
 upon herself any disagreeable and irksome restraint ~~she~~
^{should} ~~she~~ confine herself as much as possible to the hori-
 zontal posture, ~~sand~~ at night using light clothes and a
 hard mattress; and if the constitution of the patient be not
 otherwise impaired nothing will prove so advantageous as
 the cold bathing, employed with the precautions directed
 by Mr White. "I have been convinced" says that gentleman "of the
 good effects of cold bathing, not only in preventing miscarriage

when every other Method has been likely to fail, but other dis-
 orders precedent to pregnant Women, and generally attendant
 upon a weak lax fibre. I don't mean the cold bath in the great-
 est extreme, but such as Buxton or Matlock, or sea bathing, or
 bathing in a tub in the Patient's house with the water a little
 warmed xxxxxx to begin the process as early as possible, even
 before Conception, as there will be then no danger of Surprize &
 continue it during the whole Period of Pregnancy. (On lying-in
 Women. Manchester) Combined with ^{this} we would advise the other
 milder Articles of the tonic regimen, more especially chaly-
 beates, or where they are unattainable some of the prepara-
 tions of iron - as the Tinct. of the Muricate V-X drop. three
 times a day in a little water or v grs of the Saccharine
 carbonate with some Aromatic or Stomachic powder
 twice or thrice daily; and in the more Plethoric, in whom
 these Medicines when properly combined are by no means
 contraindicated, the new preparation the Symp of the Rochelle,
 combined with a little comp^d tinct. of Aloes & Hyoscyamus

will be found of great service, and as a means of opening the bowels which in this state are apt to become rather inactive, few gentle laxative Medicines can be more beneficial than the Pill recommended by Dr Hamilton, the Colocynthis Hyoscyamus, or the Blue Pill, with hyoscyamus - in both the latter preparations the hyoscyamus may be increased *pro re nata*.

In those cases where we have reason to believe that there is too much local congestion or Vascular excitement generally, with headache, sense of fulness in the loins and general irritability, our best practice is to have recourse to V.S. followed however by the exhibition of an Anodyne - a practice but too often neglected - for V.S. so far from allaying irritability, of itself is always followed by restlessness in a greater or less degree, for this purpose some of Batley's Sedative Solution may be given along with a full dose of tincture of hyoscyamus; there is less objection here to the preparations of Opium, as the patient is rather improved than otherwise by the frequent exhibition of

aperient remedies. Digitalis - Aconite - Belladonna, Conium &c. which have been given from their depressing effect on the circulation, thro' their supposed action on the heart, are not medicines to be trusted to, and ^{had} better be avoided. Diuretics are generally advisable - for which purpose some Spiritus Aetheris Nitrici, or some of the preparations of potash as the Bitartrate, Nitrate or Acetate, may be given; as they may at the same time be so administered as to form very agreeable cooling drinks. And lastly, an almost imperative precaution is total abstinence from sexual intercourse. "In all cases," says Dr. Ramsbottom, "when a habit of aborting has been formed it is absolutely necessary that the patient should separate herself from her husband's bed from the period of impregnation taking place till after that of quickening; has passed, it is also highly desirable, should abortion ensue, that the same separation be continued for some months afterwards, that the uterus may be allowed, as it were, to rest, and the nervous system be kept free from excitement."

III. In cases of threatened abortion all the measures already mentioned under prophylactic treatment must be more fully insisted upon and more rigorously enforced and this in some of the milder cases will be all that is necessary. "The abstraction of a little blood if the pulse be in any measure full & frequent, or if the patient be not of a habit forbidding evacuations, and the subsequent exhibition of an anodyne elixir, or a full dose of opium, together with a state of absolute rest in the recumbent posture for some days, will often be sufficient to prevent further mischief, & constitute the most efficacious practice." (Burns). But if, independent of the adoption of these measures, the ~~retrograde~~ symptoms should still continue we must have recourse to more active means, and towards the suppression of the hæmorrhage & the prevention of uterine action must our treatment be especially directed. Dangerous hæmorrhage during the earlier months of gestation must be owing either to detachment of the placenta in part from the uterus, if the mass be already formed; or from

rupture of some of the minute vessels connecting the ovum to
 the womb. & may be either venous or arterial; but at this early
 period no precise distinction can be formed, or at least one
 from which any practical benefit could result - but from
 post mortem examinations it would appear that a large
 majority of fatal cases are those in which the lesion has
 occurred towards the higher ^{part} of the body, or fundus uteri;
 from whence the extravasated blood cannot be discharged with-
 out causing further disturbance & thus acting as a foreign
 body excites the uterus to contraction - the surest means of
 bringing the case to speedy termination - According to
 some however unless the quantity collected be very great
 it need not prove so very injurious but become absorbed
 before it could propagate any deleterious influence,
 the absorbent vessels of the uterus during gestation being
 with the other structures proportionally enlarged and
 their activity increased -

Upon the appearance of any sanguineous or copious

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Sero-sanguinolent discharge from the Vagina, we must first assure ourselves that it arises from some accidental circumstance in connexion with the economy of utero-gestation. After which if the patient be not of a weak, Anæmic or Chlorotic constitution, if the Pulse be not of itself feeble, or V.S. itself have not lately been already had recourse to, the abstraction of a few ounces of Blood, followed by a copious opiate emema, will be found of great service, conjoined at the same time with the internal administration of Anodynes combined with Emetics - for which purpose the Opium & acetate of lead pill will be found admirably adapted, when ^{given} three or four times a day & still more so if in the intervals frequent doses of Gallie Acid with some dilute Sulphuric be given in the form of cooling drinks with infusion of roses or some such agreeable and convenient vehicle.

In cases of slight hæmorrhage from external causes Dr Burns recommends injections per Vaginam - if such be had recourse to they ought to consist of cold water holding some salt in

solution, from the well known fact that minute quantities
 of most salts favour the occurrence of coagulation, as well
 as loss of blood.; cold cloths should also be applied to the ex-
 ternal parts Sacrum & loins. "The introduction" says Dr Burns
 "of a small piece of ice, or a little snow, wrapped up in a piece of
 linen, into the vagina has often a very speedy effect in retard-
 ing the haemorrhage, whilst it never if properly managed
 does any harm." But the most sure and effectual method
 of arresting uterine haemorrhage if before the 5th month, is
 the tampon or plug; as this however is more employed in
 unavoidable abortion it will be fully considered under that
 head. If the means already suggested should not prove suf-
 ficient to prevent or arrest uterine action - the opiate enem-
 -ata may be frequently repeated, or what are in some cases
 as good if not better large opiate or Morphia suppo-
 -sories & after the 4th month opiate fomentations or the
 fubis or as a last resource after this period we might
 try the effect of local Anesthesia - This treatment

however, notwithstanding its combining the two great indications that were to be fulfilled and altho' founded upon the true pathological nature of the case is but too often unavailing, in spite of all our endeavours the flooding goes on, perhaps at first it was a mere dribbling, perhaps not truly sanguineous, but gradually increasing, its real character is no longer mistakeable, and what seemed at first a mere probability is now an unavoidable reality, the premature expulsion of the foetus is at hand and the life of the mother endangered perhaps beyond the reach of human assistance - But independent of these symptoms we are not immediately to lose hope and give up the case for it is no easy matter to decide with certainty when we must give up all hope of preserving the life of the foetus, for a large quantity of blood may be lost without expulsion being a necessary consequence. uterine contractions may have well taken place, and yet by careful management the mischief may be sometimes averted, and the patient be enabled to go her full time - Even where they have been of sufficient force and

duration to debate the *Os luteri*, we are not justified in discontinuing remedial measures unless the flooding has seriously affected the patient's strength, and the osum be actually projecting thro' the *Os luteri*" (Rigby Lib. of Med.)

III. If then notwithstanding all our previous treatment, or it may be when called for, the patient be much exhausted, the pulse small and jerking, there be frequent attacks of vomiting and syncope, & especially if the discharge still unaltered or increased be accompanied with bearing down pains recurring at regular intervals, indicating that the expulsive action of the uterus had commenced, we had better at once give up all our hopes of rescuing the life of the fetus and direct all our endeavours towards ameliorating the condition of the Mother - for altho' many women, particularly those who have frequently miscarried, come thro' the different stages of abortion with little loss and sometimes little inconvenience, the patient can be considered as out of immediate danger in whom the process is not already entirely completed - As far now from using,

U.S. a depressant, we require to cherish the body as well as the mind of the patient - and as we have hitherto failed to prevent uterine action, it is our great object now to excite it, and from Opium we turn to Ergot; even Astringents, altho' spoken so highly of by some, are now to be considered as no longer available - what we require is, to arrest, or diminish the quantity of the discharge, and obtain the expulsion of the no longer viable foetus, which is only to be accomplished by uterine action in the first place and it may be by the interference of art in the second.

Upon being called to a case in this condition the symptoms of vomiting & fainting may be so severe as to cause great apprehension for the immediate safety of the patient, but before we precipitately proceed to arrest these, we should pause and reflect that they are the means by which nature attempts, and not in vain, to ward ^{off} immediate danger. for the act of vomiting necessarily implies a violent effort & almost spasmodic action of the diaphragm and abdominal walls, the uterus is convulsed and the separation of the Ovary accelerated, & it may

be its expulsion effected - while on the other hand the moment-
 ary arrestment of the heart action favours coagulation, and
 experience has taught us that the dilatation of the os is
 seldom so easily or speedily produced as by syncope, or a
 constitutional state approaching it. - After due attention
 has been paid to the comfort of the patient, our first object
 ought to be to examine the cloths that have been applied to the
 vagina, and carefully scrutinize the whole of the discharge
 in case the ovum be already expelled, - & thus save ourselves
 much useless trouble, uneasiness & unnecessary interference; if
 we are satisfied that it is still retained, we must insist upon
 obtaining a vaginal examination, as our next proceeding
 will be greatly influenced by the state of the os & uterus, and if
 ascertainable the condition of the ovum; but in doing so the
 greatest care must be taken, not only for doing injury to the
 already irritable parts, but to avoid the premature rupture
 of the membranes, an accident before the 6th month to be regarded
 as of a very serious nature - On making the examination

we ought, instead of rudely attempting to gain the Os uteri immediately, to remove and investigate any coagula found in the passages, after which a cautious and accurate diagnosis of the Os and Cervix is to be made. If we satisfy ourselves that the Os is still closed or very partially open and rigid, we must use mechanical means to moderate the discharge till a degree of patency be obtained sufficient to admit of the expulsion of the Ovary and this is to be accomplished by plugging the Vagina or using what is termed the Tampon or Sponge-tent. a remedy first prominently brought forward by Leroux in France, Dewees in America, and Burns in this country. The propriety of its employment has long been a source of dispute, but when its mode of action is properly understood and when used before the 5th Month (pre-vious to which however its use is not confined) and with proper discrimination, it cannot fail to prove itself the most valuable Preventive Means we possess in cases of this Nature - for in the earlier Months of gestation the size of the uterine cavity is comparatively small compared with the quantity of blood

a woman may lose without immediately endangering her existence, and its structure at this period is so compact & incapable of expansion that no enlargement can take place from the collection of blood in its interior. the vagina therefore being completely occupied, the uterine cavity small and its structure unchylatable, there can be no outlet, the haemorrhage must of necessity cease or be arrested, and coagulation is the result. Various substances have been used for forming the tampon, with or without styptic applications, but the most useful seems to be small pieces of raw cotton or fine tow introduced seriatim - these entangle the blood and cause it, as it were, to coagulate, by employing several we are thus enabled to remove some of the most external and ascertain the degree of the haemorrhage without disturbing the one together with its coagulum in the immediate vicinity of the OS; and as retention of urine is in any such case exceedingly probable, how much more gently may this be relieved by removing one or two of the most external

without disturbing the coagulum, than one large mass, the abstraction of which might renew the haemorrhage in a series if not worse degree than when it was introduced - if however one large plug should be preferred, the new Spongient as recommended by Professor Simpson will be found most eligible.

"The plug is peculiarly serviceable", says Dr Inglis, "in two conditions of the uterus - first where the haemorrhage is great and the os firm & unyielding; second, where the flooding has so far depressed the system as to leave the uterus incapable of acting."

The plug also excites the uterus to contract, but the better to obtain this effect, we should administer the usual dose of Ergot and Borax & if necessary give the patient Stimuli - this however must be done with caution - in cases where the Ergot may be objectionable, a purgative medicine will frequently be found of use in rousing the action of the uterus - an effect especially to be desired, for after restraining the haemorrhage, complete detachment of the Ovary from its walls together with dilatation of its orifice are the great objects we have in view - "Plugging can now attend

the process, nor prevent the expulsion of the Ovarum, for, when the uterus contracts it sends it down into the clotted blood in the upper part of the Vagina & the flooding ceases" (Burns) The proper period for removing the tumour from the Vagina seems to differ in the Opinion of its various advocates - The French Accoucheurs seem to remove it at so early a period that all its good effects must frequently be destroyed - and the haemorrhage renewed. Dr Deverges allows it to remain from 12-14 hours; if the haemorrhage has stopped, the uterus inactive & there be no untoward symptoms Dr Ramsbottom considers it safe enough to let it alone for 12-24 hours, and if uterine action be induced it may be withdrawn much sooner - Dr Inglis advises it not to be removed within 24 hours, and in cases where the state of the uterus, at the expiration of that period, leads us to dread the recurrence of haemorrhage it will be improper to extract it before 48 hours; while according to Rigby it may be left till expelled by the Ovarum, or, apparently in accordance with ^{the} negative opinion of Burns, the period of its extraction

is to be guided by circumstances and the discretion of the practitioner in attendance -

If after the removal of the tampon the Os be found dilated, or should it be so when we first examine we must pursue a different line of treatment. If before the 6th month we should on every account avoid rupturing the Membranes, for if we do, the liquor Amnii will escape, and not unlikely carry the foetus with it, leaving the secundines still in, & it may be adherent to the uterus. Now the larger the body in its cavity be, so will it contract the better, and more regularly & if the process goes on favorably detach the whole from the loosier from its surface, so that it will lie loose in its cavity like a ball, where it comes in a very short time to act as a foreign body & thus keep up a continual degree of irritation exciting the uterus to contract upon it, and it now proves of no small value in dilating the Os, for acting as a wedge & applied to the circumference of the Cervix and Os, it expands them slowly and uniformly, as each pain returns the

membranes, as in natural labour, are forced further down dil-
 -ating the orifice more & more till ultimately the whole Ovary
 is thrown off entire - thus rescuing the Mother from the more
 immediate sources of danger. Moreover this globular mass
 being applied to the surface of the contracting uterus, will
 till its expulsion compress the orifices of the bleeding vessels,
 the calibre of which has already been greatly diminished
 by the uterine contractions. If then upon examination
 we find a soft gushing mass at the Os uteri either pro-
 -jecting thro' it or lying against ^{it} we must assure our-
 -selves of the fact of its being an Ovary from the history
 of the case together with the other clear symptoms, this
 will generally be a matter of no great difficulty, but as
 the mistake may occur we will mention the chief points
 of diagnosis (for which we are indebted to the work of Hohl
 on Exfoliation) If in the 2^d or 3^d Months it may be a co-
 -agulum from retention of the Menstrua - to decide therefore
 keep the finger in contact with it & watch during a pain

whether it become tense, descend lower & increase somewhat in size - if so it is an Ovary - but if it be a coagulum it will further become tense, not descend but rather be compressed - the Ovary generally feels like a soft bladder and at its lower end is rather round than pointed - a coagulum is harder, more solid & less compressible & more or less pointed at its lower end and broader higher up - if pressed against, the Ovary will recede, a coagulum will not, unless the uterus move with it. In the later periods of pregnancy we may be able to distinguish the presenting part of the foetus. - Having ascertained then that the presenting body is the Ovary the examination is carefully to be proceeded with, the forefinger cautiously inserted up the cervix and gently moved round the body to be expelled if, as is very likely from the irritation, a pain should occur the hand should be turned round so that the point of the finger be laid flat on the surface of the uterus and not impinge upon the membranes, otherwise they may be ruptured - the finger being now slightly flexed we must cau-

-tiously and gently try to hook it down, if it offer any resistance
 we had better withhold for a time and try and excite more power-
 ful uterine action by purgative enemata, irritation of the os,
 ergot, or following the advice of Lerret throw up a copious
 stream of warm water water by means of a vaginal or
 Rueds syringe (2) When we have failed to accomplish the
 extraction by the finger, some recommend the use of instru-
 -ments, varieties of which have been invented for the purpose.
 as the Abortion hook of Dewees or the Forceps of Dr. H. B. and of
 New York. but the employment of such is decidedly un-
 -advisable especially such as the first mentioned - if it were
 absolutely necessary that something of the kind should be
 used I should suppose a small pair of lithotomy forceps
 fully adequate for the purpose - but as a general rule these
 are to be avoided, for previous to the 5th month there is ^{no} need
 of haste in extracting the Ovary if still entire, for in that
 condition it may remain a considerable time in the uterus
 without causing any bad effect - perhaps some would have it

may even become absorbed. "If (says Dr Burns) the pregnancy be not beyond the 4th Month it will be decidedly better to trust to a smart clyster restraining the haemorrhage by means of the plug - we have thus a greater likelihood of getting all the Run off at once, and of the haemorrhage be still protracted we must excite the action of the uterus by gently elevating the Os & moving the finger round it."

Often however on making an examination we will find the foetus already expelled & probably part of the Membranes hanging into the passages - upon taking hold of them and making gentle traction in the proper Axis the whole of the secundines will come away & the case terminate favorably; but this is by no means always case, for the rudimentary placenta & membranes are very often retained causing great trouble anxiety and danger. This retention may be owing either to irregular (or spasmodic) action of the uterus or to their non detachment from its surface - the liquor Amnii having been early discharged and the uniform contraction

upon the ovum thereby prevented.

When the Placenta is retained there is always more or less pain and uterine irritation, frequently leading to consequences of a very serious nature & accompanied with a discharge of debris, the odour of which, from the matter retained beginning to putrify, is very offensive and continues till the whole contents have been thrown off; the putrid mass from long retention and absorption into the system frequently leads to puerperal fever. "Cette terminaison est bien moins effrayante; mais elle est bien plus longue, j'en ai vu de ces femmes mourir six semaines à deux mois - et pendant tout le temps, on les vu changer sont si fatigués, j'ai vu ces femmes tourmentées de fièvres irrégulières de douleurs et d'impuretés" (Puzos) Moreover as long as the secundines are retained the woman is not safe from hæmorrhage - two indications are therefore now to be fulfilled - first to obtain uterine action sufficient to expell the remains of the Ovum & second. to prevent or mitigate the hæmorrhage & for the latter purpose

we have again recourse to the Plug in the first place;
 but our chief reliance must be put on uterine action, as
 this will, if sufficiently powerful, arrest the haemorrhage
 of itself - the various Means for arousing the uterus already
 mentioned should again be had recourse to, and copious in-
 jections of warm water will be found of service in washing
 away the putrid discharge - besides, where there is this of-
 fensive matter coming from the interior of the uterus the co-
 agula formed by plugging the vagina will also in a short
 time begin to decompose & require its repeated removal - Our
 best efforts therefore must be made towards exciting the con-
 traction of the uterus - and in cases where the retention has been
 for some time, the constitution appearing to suffer and all other
 means failed we may with due precaution and consideration
 attempt to remove the mass with the instruments already
 mentioned. After the putrid secretions have been brought
 away a very offensive discharge generally continues for several
 days & then frequent injections of tepid water will afford

great relief - some also employ styptic lotions with the internal administration of astringents - The process of Abortion being now completed the attention of the practitioner must be directed towards properly nursing and attending to the constitution of the patient - on the proper guidance of which the future recovery will in many instances almost entirely depend 

" Cases of premature expulsion ~~expulsion~~ of the Ovary happening after the 5th Month require to be treated in a somewhat different manner - the same preliminary measures are however to be adopted - When dangerous hemorrhage has already commenced a vaginal examination is indispensable - when the Os is sufficiently dilated to admit the finger the Membranes are to be ruptured - if the finger can't be admitted with in the Os a quill slightly pointed will probably answer the purpose but no steel instrument should be employed - Hunter did so, and on one occasion lost his patient in consequence. The liquor Amnii

being thus allowed to escape, the cavity of the uterus is diminished, and the fetus being thus closely applied to its walls generally causes irritation sufficient to induce contraction, when the hemorrhage will either cease or be greatly diminished; a dose of Ergot should also be given and the "truch" applied, with or without cold applications.

Stimuli will frequently be found of great advantage and if the patient have suffered much, so as in ^{any} considerable degree to have impaired the tone of the uterus, one or more doses of the tincture of Opium in half a glass of brandy will prove a valuable combination, for here Opium acts not as sedatives but as excitants and when the hitherto depressed nervous irritability has been raised by these means there is the time to administer Ergot, for if the uterus have lost entirely its contractile power, Ergot can have no effect. If however the hemorrhage proceed in spite of all our exertions, and ^{it} be inexpedient to phlog, which must now be had recourse to with great caution, we had better attempt to turn and

being away the fetus - promising always the administration of
 chloroform - which besides saving the patient the shock, seems
 to have an astonishing effect in relaxing the different parts -
 an effect the extent of which can only be fully understood and
 appreciated by those who have imperfectly used it - before we
 think of turning we must always fully & carefully consider the
 degree of hemorrhage that has taken place and ^{its} effect upon
 the strength of the patient - turning is not to be considered
 and practised as a dernier resort - if we resolve to turn we
 must do so without loss of time and before the patient's
 strength is undermined - if we attempt it after this, we may
 have our former diagnosis ^{speedily} confirmed by a post mortem examina-
 tion - At this advanced period of pregnancy the placenta
 is not liable particularly to be retained, but if it should, then
 the ordinary treatment of retained placenta at the full time
 will be the proper practice to pursue -

As regards the treatment of the patient after Abortion, much
 will depend upon what she has suffered during the process.

Many will require nothing ~~more~~ & perhaps even less than the ordinary treatment of women generally after natural labour. But those who have been much debilitated will demand much more care & attention - they must be kept in bed for a much longer time and restricted to light nourishing diet - when able to leave bed they should confine themselves for some days to their own room then be removed to the drawing room, where when society they receive ought to be of a cheerful nature and all household duties left to the management of others - what exercise they take must at first be very gentle - and that of a passive nature, ^{such} as a short ride in an open carriage will be found most eligible - After some time removal to the country or sea side will prove very beneficial, with gentle exercise in the open air, but on every account cold & fatigue are to be avoided - the other articles of the tonic Regimens should also be employed - of which cold or tepid bathing & such tonics as Quinine & the Mulein preparations of Iron (Citrate) will do much to strengthen the constitution & improve the appetite all

Sexual intercourse must be interdicted for month at least, and the patient warned of the probable consequences. Whatever venereal affections may result are to be treated as if of ectopic origin.

Part II.

on

Hæmorrhage in the latter Months of Pregnancy.

However serious & alarming Abortion must always be considered, its more immediate consequences will never for a moment bear comparison with those of uterine hæmorrhage towards the close of gestation, an accident more appalling than which can seldom befall a pregnant woman, seldom be more fright-

-ful to witness; & in no other case can the life of the patient be supposed to depend so completely on the ability, discretion and decision of her Medical attendant.

Unhappy still as the results of some of these cases occasionally are, they are small in proportion to the mortality that must have occurred, previous to our acquaintance with their true nature & causes, & consequently with their treatment; the first complete exposition of which no unprejudiced mind will hesitate to ascribe to the late Dr Rydy of Norwich.

In his essay on uterine haemorrhage published in 1775 he has pointed out to us, for the first time, that haemorrhages during the latter Months of pregnancy depend essentially upon two causes, differing however very widely in their nature, & which he distinguishes as Accidental & Unavoidable.

"A distinction" Dr Hamilton very unjustly remarks, "omitted without acknowledgement from Levret."

Under Accidental he includes all those cases of haemorrhage which depend upon some unnatural occurrence causing

the detachment of the placenta from its natural situation, which he defines to be "some part of the womb which does not obliterate during labour" - as uterine ^{action} can thus have no effect, the cause must be undesigned & therefore accidental.

So unavoidable he refers those cases resulting from what in the eyes of some would appear a lusus nature, viz. the implantation of the placenta over the cervix or os uteri. When therefore this portion of the organ begins to expand to form part of the general cavity, the mass possessing but little inherent extensibility, the connecting vessels must be ruptured in proportion to the degree of expansion the cervix has obtained, and the longer the uterine action continues the greater will be the separation and consequently more profuse the hemorrhage. Since then detachment of the placenta is the result of the natural action of the uterus and as the fetus can only be expelled by that action, its occurrence is a matter of necessity - that is - it is unavoidable.

We should not have been surprised had Dr Hamilton

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while denouncing the practical inferences drawn from this arrangement, also objected to the distinction itself; but that the following argument urged against it, should be found in the latest obstetric publication of this country, is rather a humiliating fact for British Accoucheurs. Thus says Dr Smith - "When the placenta is attached to the Os or Cervix Uteri, the hemorrhage which follows the separation of the placenta is called unavoidable; when the placenta is planted at the fundus the hemorrhage attendant on its separation is called Accidental - There is, however, very little, if any, meaning in these two terms thus applied; whenever separation of the placenta has taken place, whether at the Os or fundus Uteri, hemorrhage is inevitable & unavoidable, unless the uterus is either contracted, or unless some mechanical pressure is made on the separated surfaces" - The above process of reasoning seems so essentially void of a proper knowledge of distinction between cause and effect, that, bearing as it does so strong a "synergy" with the other original parts of the work

we trust that Dr Smith will prosecute the investigation of Reflex Obstetrics, which he informs us "have scarcely ever been absent from his waking thoughts", leaving the practice of Mr. Levis to others of more enlightened and prejudiced mind - ~ ~ ~

Before proceeding to the consideration of any special forms of flooding, we will endeavour to give as short a view as possible of haemostatic agents - natural and artificial. The various means which nature adopts independent of us viz. Syncope, Coagulation - Obliteration. More especially contraction of the uterine fibres, can only be of permanent advantage in the early months, in cases of a trifling nature, & where the Placenta has become completely detached - While the various remedial measures which ^{we} enable us to employ are much more numerous, and when properly used of more decided effect.

1. Depletion. "The first remedy" says Dr Burns "which upon general principles offers itself to our attention is blood letting". Having

recourse to V.S. in almost every case of haemorrhage, whatever might be its cause, was at one time a very common practice, unless the patient were - fortunately for herself - of a checked Anæmic constitution; but when we consider the true nature of uterine haemorrhage, we must see that altho' in some cases this remedy might have prevented it, in no case deserving the name of flooding, can it complete or even accelerate the cure. We might in fine as well employ V.S. in the case of a ruptured Aneurism.

II. Stimuli. A class of remedies directly opposed in action to the former, and from no other do we find such beneficial results, when given at the proper period and with proper restrictions. The general system soon shows symptoms of exhaustion, the tone of the whole functions becomes impaired and our efforts now must be directed to keeping up the patient from sinking under the discharge; the uterus formerly inert ^{under the influence of Stimuli} becomes revived & capable of receiving the impression of other remedies by the action of which it is directly

excited - for where the actions of the heart & nervous system are not maintained, these can have no effect.

III Astringents, altho useful in sanguineous discharges from the unimpregnated uterus or in early abortion, can have no effect in advanced pregnancy, in fact they can only be useful where the haemorrhage is from small vessels, the inherent contractility in the coats of which will be sufficient, without requiring uterine contraction, to close them.

IV Cold is ^{one} of the best remedial agents we possess, when its action is properly understood. General refrigeration is dangerous as it may sink irrecoverably the already exhausted system. "This says Dr Burns" is to be made not only by applying cloths, dipped in cold water, to the back & nucha, but also when ^{the heat} ~~that~~ is increased by cold sponging over the legs arms & even trunk. Independent of the high authority from which this comes, I cannot but consider it as carrying it too far & endangering the life of the patient - the extent to which this should be applied is removal of all unnecessary clothing & causing a free

current of fresh air to circulate thro' the apartment, so as to keep the patient cool, but not cold. When locally applied it acts in many cases with great certainty; when the patient has not lost much blood it does so by causing it directly to contract - and when exhaustion has taken place it acts as a powerful stimulant - but to obtain either result it must be judiciously applied and a regular degree of alternation maintained, for a single cold douche, or the sudden application of the ^{hand} dipped in cold water will prove more efficacious than a continuous application of the most intense cold for hours - a fact well illustrated by Dr Gooshe.

V. Opium. "is held up by many very great authorities as a most valuable means of arresting hæmorrhage xxxxxxxx. It takes off the muscular contraction by destroying nervous irritability & it also promotes retentive action - the very power on which we can alone rely - Does it not then seem preposterous to use these very means for subduing hæmorrhage which would take away our only source of safety?" (Reamsbottom) Here - fortunately for many - the view taken

of the action of Opium is but one sided. For those acquainted with the true therapeutic effects of the drug know well that it is an excitant as well as a sedative & that its administration will elicit either of these effects according to the constitution of the patient. Where the nervous irritability is unimpaired it will generally in large doses act as a sedative, but even here when its quantity is properly regulated it may, as opium eaters well know, be made to produce its exciting effect, which can be compared to none but that of Indian Hemp. But where the nervous irritability is in any degree destroyed opium always acts as an excitant in the first place, & if it come to have a sedative effect influence the uterus well by that time be found perfectly amenable to other means of treatment. "On this subject long experience enables me to speak with decision and to recommend in every instance (where the hemorrhage does not depend upon plethora) the exhibition of a full dose of Laudanum" (Burns)

VI. Ergot. "The action of this substance appears to be specifically upon the uterine fibres, urging them, sooner or later, to more

a less violent contraction; it is not the ultimate contraction alone that is increased; the tonic also is powerfully augmented - this is of much more value since it can in consequence of this power be more advantageously employed in many cases where this effect would be all important" (Dewees on the Secale cornutum) There can be no doubt that this valuable agent but too often disappoints the expectations of ~~the~~ practitioners, but altho' this is occasionally to be ascribed to the inferior quality of the drug, it is not unfrequently owing to their own want of discrimination - for unless the uterus be in a proper state to receive its impression, it can excite no action whatever - it is often given with a specific intention, when that effect is utterly impossible; for where the organ has that peculiar flabby relaxed feel & total want of irritability it will never act - unless in short the uterus has either not parted with its nervous excitability or else by proper stimuli regained it, we only injure the patient by its administration. "Ergot of Rye is quite inefficient in nervous exhaustion of the uterus, because so far from

acting as a stimulant, it seems to have a sedative effect (at least upon the heart) while its specific action is obvious the moment that exhaustion is removed. Opium is therefore of the highest value in saving a patient from the consequences of extreme flooding; Ergot of Rye in preventing such hemorrhage from taking place. Both remedies may be used in the same case, but we can never supply the place of the other" (Murphy)

VII. Sphecacuan - has been proposed by some as a suitable means in the absence of ergot - but how it acts I can't understand, unless in its usual way, by causing vomiting leading to the complete detachment of the placenta (!)

VIII. Electricity - seems to be a remedial agent of no small interest. In Dr Radford's cases it appears to have been productive of the best results - thus he states that "it had the power of energetically exciting alternate contractions when applied at intervals" - "The alternate contraction excited by the agent is analogous to, and as powerful as, that which is observed in normal labour & the tonic contraction greater" (Proc. Med. & Surg. Journal Dec. 1844)

Professor Simpson has also tried the experiment, but obtained very different results - there is this, however, to be remembered - that the cases were by no means parallel, for while those of Simpson were cases of natural or protracted labour, Dr Rodford's patients were in a state of extreme exhaustion from haemorrhage - the proper apparatus to be employed is the electro magnetic - sponges, dipped in some saline solution, & fixed to rods attached by wires to the Machine, may be applied to the different parts of the uterus, externally, or even internally to the os or cervix, by introducing one per Vaginae - so that the current may be made to pass thro' the uterus in every direction -

IX. Rupture of the Membrs. This practice is still opposed by some not only in cases of Placenta previa, but also of accidental haemorrhage; in the latter they are fortunately few, for by rupturing the Membranes and allowing the lig^d Amnii to escape, the uterus being emptied of part of its contents, contracts upon the body of the Fetus, which is hard and resisting - in doing so it diminishes the calibre of the vessels & causes the Fetus itself

directly to compress the orifices of the bleeding vessels, besides which its contact with the inner surface of the uterus act as a fruitful source of excitement by which the contractions of the organ is kept up & arrestment or mitigation of the hemorrhage with speedy delivery may be expected.

X. Plug is one of the most valuable & certain haemostatics we possess in cases of hemorrhage in the early months, but in floodings before delivery its adoption is considered by many as a very hazardous line of practice even in placental presentations, while in accidental post partum hemorrhages its totally inadmissible.

XI. Compression of Aorta has been highly spoken of by several eminent Obstetricians - especially Dubois & Chaully - but I believe very seldom had recourse to, in this country at least - regarding this proceeding I may quote a rather characteristic passage from the Reflex Obstetrical of Dr. J. Smith - "Several years ago I pointed out that the directions of Obstetricians were wrong & that we should make pressure upon the inferior Vena Cava instead

of the Aorta. The great hemorrhages, those which kill, are from the Veins & not from the Arteries, & further not from the Veins which are returning blood from the uterus, but from the Vena Cava & heart itself (!)" The originality of this statement you will be inclined to dispute - It might have been all very well in theory had the Premises been correct - especially had the blood been returned from the inferior extremities by some special channel, & that of the uterus by one large Venous trunk & had this been ruptured - but we must remember that the Venous Sinuses of the uterus are immense in number as well as size & that they naturally pour their blood into the Vena Cava thro' the iliac ^{Veins} ^{or ovarian} into which it flows thro' various ramifications - Now if we compress the Vena Cava (which moreover we cannot do avoid doing if we compress the Aorta) we must of necessity cause congestion of the uterine Veins & consequently of the Placental also. & what will be the effect? Let us suppose that by good fortune the uterine extremities of the ruptured Veins have

been closed—for hæmorrhage does not always follow relaxation
 of the uterus—the venous blood still returning from the at-
 tached portion of the Placenta will greatly distend these
 sinuses—the degree of resistance offered by the occluded ex-
 tremities of the ruptured veins being less than that of the
 walls of the others generally & less than the force driving on the
 circulation, they are consequently pedulated & pour out the
 blood as the only means of relieving the stagnant circula-
 tion—or if their orifices have continued patent they will
 allow its escape the more abundantly & from the very com-
 mencement—but what of the Placental extremities of these
 vessels—if there can be no return of the Placental blood to the
 uterus from the congested state of the sinuses, and the
 mass still continue to receive its arterial supply, the
 veins of the Placenta will also become distended & discharge
 the blood with redoubled force from the already bleeding
 orifices—for these veins all communicate freely with each
 other—the suggestion might be supposed to apply more

particularly to cases of complete detachment of post peritoneal haemorrhages - but there are no valves in any of the pelvic veins, then what will become of the blood returned by the external iliaes, if the vena cava be compressed - it will be forced in ^{to} the common iliacs as usual, where finding no exit by the natural course, it will flow backwards thro' the open branches of the internal & escape *pleno jure* into the uterus -

XII. Transfusion - has been very highly recommended by Dr Blundell - but seems a remedy which - from the extreme danger attending it - should only be used where every other means have failed. This however Dr Blundell argues - & apparently with justice - to be the cause of its so frequently failing, with other operators. he has on several occasions resorted to it & quotes cases, both from his own practice & that of his friends, where this plan was adopted & apparently saved the life of the patient - but as he argues that so many cases have had fatal results from the transfusion

being so long delayed, when the patient had already irrecoverably sunk; so on the other hand may it be contended that if the patient still possessed that degree of strength necessary for the ensuring success - the exhibition of the less dangerous remedy might have been equally efficacious. But when everything else has failed - when the haemorrhage has stopped, the pulse still perceptible but flickering, and the patient gradually sinking, apparently from want of vital stimulus to keep up the system, if the necessary means be at hand there can be no objection to having recourse to it as a 'dernier Resort' -

XIII. Direct irritation of uterus is one of the most effectual means we employ in cases of slight haemorrhages; and not infrequently in more severe cases by carrying it to a greater extent, the uterus will be found to contract under its influence when perhaps all other measures have failed. Its preventive action is had recourse to in every case of delivery. For it is thus that the binder or abdominal bandage

exerts its effect - for by its pressure it causes irritation. Circular
 friction over the fundus uteri is one of the first things we think
 of in a case of flooding - If insufficient, we use friction ~~over~~
 and pressure over the different parts of the organ to obtain
 if possible, at least a temporary, contraction, so that we may
 be enabled to squeeze it like a ball between the hands; an
 operation frequently of no little benefit to the patient and
 discomfort to the Accoucheur - over coming very often thro'
 some the partial atony of the uterus - Irritation however
 is liable to a rather serious objection viz. it is apt to cause
 irregular contraction of the womb. And it certainly is very an-
 noying to find, that after continuing our pressure & friction,
 it may have been for hours, the part to which it was applied
 again relaxes as the hand is removed - obliging us perhaps
 at least to confess that all our trouble & exertion have only
 been productive of temporary benefit leaving us where we be-
 gan & to commence a new mode of treatment - But if we
 can only obtain steady contraction in this way for 20-30

Maintain the proper application of the binder & presser over
 the uterus will generally keep up a proper tone contraction
 & the flooding entirely cease - but should the uterus again
 relax these must all be removed more efficient means
 employed - The most powerful but not uncharacterous appli-
 cation of direct stimulation, is introducing the hand into
 the uterine cavity, & either causing contraction on the internal
 surface with the point of the fingers, or else in cases of a
 desperate nature seizing the relaxed walls & grasping them
 firmly with the hand - In the latter success of either mode
 the left hand or that of an assistant is ^{to be} applied externally
 in direct antagonism with the hand within the uterus
 so that proper counter pressure is kept up - This however
 is an operation of no insignificant character, the mere pres-
 sing the hand may of itself be sufficiently easy but is
 fraught with danger (both immediate & future) to the woman -
 if she have strength sufficient for the shock, she is not
 likely to suffer from inflammation of the uterus, but

if, as is almost necessarily the case, she be much debilitated she may sink at once, or if not directly from the shock, it may hang on such convulsions or syncope as the already exhausted constitution is unable to bear - Not unlikely, while the arm is still within the uterus we feel the whole body give one convulsive struggle & she dies in our hands - a position by no means enviable either to occupy or to witness.

Accidental Haemorrhage.

— s s s —

Accidental Haemorrhage may arise, as first pointed out by Andrea Pasta*, from rupture of the delicate vessels of the decidua as well as from partial detachment of the placenta from the fundus or body of the uterus; but that following the former can only be of so slight extent as scarcely to demand the attendance of the accoucheur & deserves more the name of "show" than that of haemorrhage - That resulting from the latter however is of a very different nature, the partial separation of the mass causing a proportionate rupture of the utero-placental vessels, & the detachment extending only to a portion, it cannot be put a stop to by natural means alone - But it is an ascertained fact that total separation of the placenta is almost always followed by cessation of the flooding - Numerous cases, by Professor Simpson, illustrative of this are to be found in the reports of the

* Discorso del flusso di sangue.

Edinb. Obstetric Society. It was formerly supposed & still is maintained by some, that the hemorrhage occurs only at the uterine extremities of the ruptured vessels. The incorrectness of this view was first pointed out by Hamilton & since established by Dr Simpson. That the escape of blood occurs as much, if not more so at the placental than the uterine surface is a fact which must be self evident. when the true structure of the placenta is properly understood - as first described by Hunter, but since fully & explicitly demonstrated by the beautiful injections of Weber, and the elaborate dissections of Owen & especially of Prof. Goodwin. The various discussions & theories on this subject it is here impossible to consider; but as it is one of great importance & hardly to illustrate the relations of the Maternal & fetal vessels we may be excused for making use of a rather long quotation from the observations of Professor Weber -

"The whole Placenta & therefore every individual lobule entering into its composition, consist of two distinct parts, the one a continuation of the Chorion and vessels of the ~~embryo~~

the other a continuation of the Membrana decidua. Vessels of the Uterus
 From the Chorion for instance, dendritic processes or elongations are sent
 out, which in small or a month old are seen so small & simple that
 they are called Villi, but which grow by & by into large & numerous,
 divided stems & branches. - Into each of these dendritic processes
 penetrates a branch of the Umb. Artery & Vein. - Both vessels divide
 into branches the same as the processes of the chorion in which
 they run. Each particular trunk with its diversifications of the
 shaggy chorion forms a lobule of the placenta which is covered with
 the tunica decidua. - It is in the spaces between the divari-
 cations of the chorion that those vessels run which transmit
 the blood of the Mother & which are prolongations (dilatactions) of
 the Uterine Arteries & Veins. - They penetrate in this way even to
 the most minute lobules of the chorion. The object of this structure
 seems to be that the minute, convoluted, greatly elongated & extremely
 thin walled fetal capillaries may be brought into the most inti-
 mate contact possible with the larger but everywhere excessively
 thin walled canals (sinuses) in which the Maternal blood flows

that the two currents without interfering with each other's motion, may pass each other to as great an extent as possible with nothing interposed but the delicate parietes of each - The uterine vessels when once they have entered the spongy substance of placenta do not further divide, but immediately terminate in canals (sinuses) which are of far too large diameter to permit them to be spoken of as capillaries. & of which the parietes are so thin that they cannot be shown apart by the most careful dissection -

Thus then we find that the foetal tufts float as it were within the maternal sinuses - they are within them exactly as we may say the intestines are within the peritoneum - the maternal blood flowing along the sinuses bathes or washes the foetal capillaries for they are only separated by the excessively thin walls of each. thro' which the Nutrient Matters (analogous to after Milk) pass to nourish the infant, either by a process of endosmosis or of secretion analogous to that of the intestinal villi - a layer of cells belonging to Mother & foetus respectively being found between the walls of the vessels -

After supplying the necessary materials to the foetal system the maternal blood returns thro' the large venous tubes into the uterine sinuses the arrangement of which is very peculiar (See North-Townsh. of Med. J. 1846)

Thus then we can understand the correctness of Dr Hamilton's views promulgated in the face of so much opposition. When the placenta is partially detached, the arteries running from the uterus to that portion of the mass which has been separated, as well as the large venous canals returning it, must be broken across & haemorrhage result; Not so much from the arteries, for their calibre becomes spontaneously diminished, as from the venous tubes chiefly mentioned, for they communicate with each other thro' the whole substance of the placenta. and the arteries of the undetached portion still continuing to supply their former quantity of maternal blood, it passes from ^{thence} thro' the maternal sinuses into the large returning veins which being ruptured consequently discharge in such quantity as must soon prove foetal - Nor are these the only sources of the

discharge, for the uterine veins of immense size all directly communicate with each other & have no valves - unless during contraction of the uterine fibres when as Dr Simpson has shown valves of a temporary nature are formed - blood therefore being returned naturally by the venous trunks that have not been ruptured to the different venous planes of the uterus, these communicating so freely with each other, an immense quantity of blood comes to be lost from the open mouths of those originally connected with the separated portion - the nature of the haemorrhage resembling somewhat that of secondary haemorrhage after ligation of an artery - The whole of the blood lost is therefore maternal - the life of the foetus being endangered only in a secondary degree.

Causes

of accidental haemorrhage are either direct or exciting. The former are those which by direct violence cause at once the partial detachment of the placenta from the uterus - but those are less common than are generally supposed - for altho' they do frequently cause

Accidental haemorrhage, they do so by other means than by direct
 concussion. The degree of violence some women will suffer without
 interrupting utero gestation is sometimes almost incredible. Thus
 in the ^{twelfth} vol. of the Lond. Med. chir. transaction there is re-
 lated a case where a woman in her ninth month was driven over
 by a loaded carriage, the liver was ruptured, but upon Caesarian
 section being performed the foetus was emancipated alive & the
 whole uterine economy free from accident. A less serious case
 came more immediately under my own notice where the patient
 in her 8th month fell from the 2^d flat of a house in Jamaica
 Street with no other injury than some slight bruises & the in-
 duction of Spurious pains - she went her full time & was delivered
 of a healthy child. It has been denied by high authority that
 these causes can ever act for se in causing detachment, but
 from my own observations I believe 1st that they may do so oc-
 casionally independent of the comparatively firm adhesions
 the placenta has to the uterus. 2^d that Mental emotion may
 induce premature labour, but will never directly cause de-

-attachment of the Placenta - 3^d that altho' the Placenta possesses but little inherent extensibility or contractility, it has still sufficient to prevent it from receiving any serious injury from Spasmodic or other Special affections of the Uterus.

If then these do not act directly, how do they produce such necessary disturbance as causes the separation of placenta? They do so by exciting the circulation - and the Placental vessels are, as we have already seen, in every way predisposed to suffer from such a cause - they are numerous, of immense size, & of extreme delicacy - this abnormal action is not gradual as that produced by Stimuli, but in the form of Shock. The whole system is affected, & the extremely attenuated walls of the utero-placental vessels - which must receive the effect in proportion to their size - give way in proportion to the extent of the rupture & the degree of excitement producing it, so will the hemorrhage be - The extravasated blood collects and coagulated between the Mass and the Uterus separating them gradually lobule by lobule. The greater part of the centre of the Mass is easily detached comp-

- and with the portions of its surface near the circumference, and consequently the separation may be arrested here. If it have stopped before any considerable portion have become detached, all may be well - that this is the case we have reason to suspect from the frequency with which we find small clots adherent to the Maternal surface in Natural Labour. If however the separation have gone to any great extent - which we will discover by its effect upon the system - we have but too little reason to expect a favourable termination, not only as regards the Mother but the Fetus also - for where the detachment is extensive the Fetal circulation cannot be properly carried on - the blood is no longer sufficiently oxygenised & to all intents and purposes the Fetus dies Asphyxiated. Fatal therefore as this must be to the life of the Mother. Even it is sometimes not less so to that of the Mother. for cases have occurred where so large a quantity of blood & coagula had collected between the surface of the placenta & the uterus as rapidly proved fatal. (Dub. Hosp. reports by Drs Hardy & McClintock) - When the edge of the placenta has given way from the force of the discharge the blood gradually makes its way downwards

Separating the Membranes from the uterus ultimately appears externally - a form of haemorrhage much less to be feared - than where it collects insidiously in the cavity - at least in the hands of those who, altho' they see, what to experienced practitioners are unequivocal signs of flooding, still fail to detect it - if they even suspect it, they examine the cloths applied to the vagina or may even make an examination, where finding everything as they think natural, they conclude, independent of the pathognomonic state of the pulse, that this cannot be the cause of the abnormal symptoms & not unlikely treat the case as presenting some of the occasional Malignant symptoms of 1st stage in the course of time as convulsive ^{or delirious} symptoms begin to appear have recourse to V.S. or the Use of Antimony - till the patient expires in their hands - or it may be they are at last made aware of their almost criminal position by a sudden discharge of blood & coagula producing fatal syncope & presenting the unhappy sufferer an innocent victim of their own ignorant presumption; for it may be remarked that no class of men assuming to be

professional, are so ill educated, so ignorant of everything but empiricism, or so totally incapable of comprehending or doing what they have not already seen or done, as the Accoucheurs, or to use in their case a more appropriate term, the Men Midwives of the lower ranks.

Anæmia & the phlegmatic temperament with debilitating affections of the uterus have all been reckoned among the causes of Accidental hæmorrhage - they can however have no effect, but as predisposing agents, and the rationale of their action as such has already been fully considered under the head of Abortion.

Symptoms

of Accidental hæmorrhage will vary much according to the extent of the lesion, the period of our being called & the constitution of the patient. In this form of hæmorrhage they are not so necessary for exciting our suspicions of the case, as for enabling us to determine to what extent the lesion has gone, for the causes are generally so evident & peculiar in their condition with their attendants are in general so obsequious in mag-

-suffing & confidently impacting to us any trifle that has hap-
 -pened in this era of domestic history, that any occurrence capable
 of producing the required effect will be almost certain to be
 the first thing our attention is directed to. Upon our sus-
 -picious being excited the first thing we do - the patient of course
 being in bed - is to feel the pulse which in almost every case
 affords a sure indication of the true extent of the hemorrhage
 altho' Dr Hamilton seems to have met with some peculiar
 exceptions to this general rule. - If we now examine the
 vaginal cloth we may obtain some idea of the extent of
 the flooding, provided, that is, any blood have ^{escaped} externally - but
 this is by no means always the case - so that probably it will af-
 -ford us no information whatever. If there be any external
 discharge it will generally be found to have commenced
 in a very trifling degree, only attracting the patient's notice
 from its trickling down the Vagina & thighs - thus rendering
^{her} the patient very uncomfortable; or it may be that she
 was first warned of her alarming condition by a sudden

gush of blood taking her by surprise when walking, when at
 stool, or it may happen when sitting quietly or even lying
 in bed, and not unlikely inducing an immediate state of
 syncope, just recovered from which we will probably find her
 when we arrive — These sudden discharges may continue, or resolve
 themselves into small streams escaping from the passages. If upon
 examination we find that the discharge of warm blood either stops
 or is regularly diminished with the recurrence of each pain we may
 pretty safely decide the case to be one of Accidental Hemorrhage;
 but this conclusion is not always so easily & safely arrived at, for if
 coagula — which ^{altho generally} by no means necessarily depend upon this — have been
 lodged in the lower part of uterus or vagina, it is but natural to sup-
 -pose that it will be during the pains & not in the intervals that they
 will escape, & thus simulate the discharge of placenta previa; it
 is the discharge of recent blood not of coagula we must trust
 to — but the better to satisfy ourselves we should immediately ex-
 -amine the OS uteri & see whether we can easily detect the
 Membranes or cannot detect the placenta —

If the flooding should arise from placental presentation, she will almost always have suffered on previous occasions, altho' probably in a minor degree, frequently as early as the 4th month, from the cervix beginning to expand as part of general uterine cavity & consequently causing rupture of some of the utero-placental vessels - it generally comes on suddenly & then disappears for some time, again appears & disappears, it may be several times before we are sent for - or perhaps, as is more rarely the case, she has never been attacked till labour has set in & then we find that the discharge accompanies the uterine contractions - If the placenta present at the OS we will be unable to feel the Membranes a fluid, which presents in a little more than half the cases of this nature. If the OS be not sufficiently dilated to admit of free exploration with the finger, the Cervix lower part of uterus will feel more full, soft & doughy than natural, the resisting fetus cannot be detected thro' the anterior Segment - these marks become much more distinct when the mass is attached to one side more than another & are to be diagnosed by carrying one or more fingers

up the anterior part of cervix, between it and the bladder then round the whole of the neck, from the OS to where it is lost in the uterus. here the tactus cruentus is essentially necessary.

Should the OS be open, or after it has become so we ought to be able to detect the true nature of the structures lying against it.

if it be the Membranes, if the presenting part be distinguishable, receding upon pressure, good well. we may safely conclude that the haemorrhage is accidental. But if the Placenta present,

we will feel a soft but somewhat fibrous mass resisting the finger. and unless the interlobular spaces are filled up with coagula we may be able to detect the cotyledonary structure; if we attempt to pass the finger round between it and the OS we will find it firmly cohering to the inner surface. - According

to some this is very apt to be mistaken for a large firm coagulum. But if proper care be observed there cannot be much danger.

A coagulum presents a uniformly smooth surface with no fibrous structure distinguishable - but the placenta may also appear in this state if - as already observed - the interlobular

spaces be filled with coagula & a thin layer of coagulated blood be spread over the presenting surface - But a simple coagulum only rests against the OS, it is never adherent & the finger may easily be passed between it & the uterine surface - upon a gentle attempt it will easily give way & break down - while the placenta will not, unless the examination be made with such a degree of roughness no circumstances could justify - if we distinguish the mass to be a coagulum we must continue our search round the OS as far up the cervix as our finger can reach in case of there still being a partial placental presentation -

Having then ascertained that we have a case of accidental haemorrhage to deal with we look to the constitutional symptoms, mostly, to decide the degree of injury or danger. and altho these may vary somewhat in different persons, they always present some character in common, which, to the experienced, are of themselves sufficiently pathognomonic

If the haemorrhage exists to a dangerous extent, the countenance

soon becomes pallid, the pulse, rapid from the first, becomes feeble
 and jerking, the uterine pains irregular & languid & ultimately
 cease; from injury to the vascular system, the nervous functions
 become altered, perverted & destroyed, the patient gets irritable
 and restless, struggling violently but unprofitably, requiring
 to be held down in bed. This is generally succeeded by tremors
 aurium & giddiness - with dyspnoea & syncope from the dimin-
 ished quantity of blood circulating in the lungs & brain. She
 soon revives, if this be the first attack & then vomiting not unfre-
 quently begins - at first slight, but soon becoming severe and
 excessively troublesome - the stomach rejecting what Medicines &
 Stimuli we require to administer. She feels as if suffocating,
 occasionally (one of the worst symptoms) there is violent orthop-
 noea. She faints & faints again, the extremities become
 cold - a cold clammy sweat beclaws the whole surface,
 the pulse fails at the wrist - her eyes stare wildly - the voice
 begins to shake, then to fail, she groans slightly, mutters
 incoherently, till at last a violent attack of dyspnoea

syncope or convulsions closes the scene - General altho' these symptoms are, yet there are a few cases in which many of them never appear; or where from the violence of others they are perhaps overlooked - Thus says Dr Hamilton "I believe for the last 20 years I did not see any patients die from hæmorrhage in whom delirium or convulsions or laborious heaving with disbusseel groaning did not precede the fatal event" - "But I have now met with many exceptions to what I consider the general rule - It has been my misfortune to witness several cases where the individual swallowed, spoke with a firm tone of voice, and had a perceptible pulse at the wrist within 2 minutes previous to death, having had neither delirium, nor oppressed heaving nor convulsions -"

Treatment.

From the various hæmostatic remedies having already come under our notice, the treatment of accidental hæmorrhage will require but short special consideration.

Where the discharge is slight we must if possible repress it;

and if before the completion ltero-gestation, we must do every thing in our power to carry the patient on her full time - but where the discharge is profuse, or where, altho' the danger was less immediate, it is beginning independent of all our palliative means to affect her system, we must proceed to more active measures to arrest it, which can only be finally accomplished by delivery - but as this can seldom be effected immediately we must employ other means of obtaining it as soon as possible viz. such as are best calculated to excite the uterus to action.

The first step to be taken is to introduce the finger if necessary the hand - but this if possible is to be avoided - and rupture the Membranes - if this cannot be done with the finger we may ^{use} a slightly pointed quill - but on no account a steel instrument as some have recommended - the uterus now emptied of ^{part of} its contents is found to contract upon the fetus - which is supposed in the first instance to compress the placenta against the uterus thus close the bleeding surfaces, and secondly its various points of contact acting as so many sources of irritation keep up a regular tonic contraction of the uterus leading in a short period to the expulsion of the child

and under proper management the cessation of the hemorrhage. This is the manner in which puncturing the Membranes is at least supposed to act - altho' various plausible objections have been raised to prove that this cannot be the case - be this as it may - if the Modus Operandi be involved in mystery, the effect certainly is not; be the explanation bad & theoretically incorrect, the result is good and practically correct, and will generally prove successful in about 80 to 90 p.c. of cases of this Nature. Merriman employed it with complete success in 30 cases running - Dr Hamilton opposed it in very strong language & considered it almost criminal to resort to it unless the os uteri were excessively rigid turning rendered impossible, or not permitted of by the friends or the patient herself - Yet we find the very same Author telling us that "Since 1794 he never had any difficulty (after the water had escaped) in bringing down the feet of the infant - a fact quite notorious in this city" now this statement was made long before the days of Anaesthesia is therefore more applicable now - & if turning even in those days was a matter of so very little difficulty after rupturing the Membranes

why object so strenuously to letting the coagulæ escape & giving the patient the chance, why not puncture just & then afterwards if it should be necessary. On the other hand we find Dr Davis speaking thus highly in favour of the practice. "It is a fact that the artificial discharge of the liquor Amnii may in a certain proportion of cases be relied upon as a means of suspending profuse uterine hæmorrhages - and it will hereafter be made to appear, as it has indeed already been seen, that the discharge of the liquor Amnii thus promoted may be depended upon as a means calculated to induce the action of parturition."

After, or perhaps better before, the Membranes are ruptured a dose of ergot should be given the better to ensure our object, and renewed every 15 or 20 Minutes till it produce a satisfactory effect - if the patient be at all exhausted - this may safely be combined with a little tincture of Opium, the dose of the latter being regulated by the degree of exhaustion produced. the abdominal bandage should now be applied with a slight compress over the uterus or the organ irritated by pressure & with hand

but it will generally be found the more efficient practice to supply the hinder & introduce one or more fingers to rotate the OS, or what will prove more efficacious still when the patient can bear it, is pressure on the floor of the vagina.

If proper assistants and the necessary means be within our reach we may try Dr Radford's treatment by galvanism, as it seems to have been in cases of this description that that agent proved so successful in his hands - this however is not to be employed to the neglect of other means - upon us individually rest the responsibility of the case - confide this therefore to the charge of our assistants, while we leave no ^{other} means untried - as far as the action of the one does not interfere with the action of the other. Stimuli, as before noticed, are of great effect when employed with proper discrimination; they may now become necessary to support the action of the heart and vascular system to prevent syncope - which occurring at this period might at once prove fatal - What stimuli are to be given ought to be undiluted - half a wine glassful of pure brandy will do more good than a whole tumblerful mixed with water.

Table-spoonful doses of brandy with some tincture of Opium will be found ~~very~~ efficacious administered pro re nata. Necessary & powerful as these sometimes are, they become dangerous remedies in the hands of those who are ignorant of their proper action & therefore cannot distinguish when they have been carried their proper length - and continued after this, they are as injurious as they were formerly beneficial - we must exhibit them ourselves & not trust them to others, the proper quantity & frequency of their exhibition being equally guided by our own judgement.

Plugging the vagina in cases of this sort has been highly recommended by some - but its adoption is certainly to be disavowed as most hazardous - for if the means of escape be taken away fatal accumulation will go on in the uterine cavity without at all diminishing the quantity lost. If the pulse have already suffered much we may not be able to form a correct judgement of what is taking place inside - or we may even flatter ourselves we have stopped it - but the walls of the

relaxed uterus gradually becoming more & more distended till some
 pounds of blood are collected in its interior, the organ being thus
 stimulated to action contracts, we withdraw the plug deceiving
 ourselves into the idea that we have caused uterine action (which
 no doubt we have) that all will go well, the hand is perhaps not
 more than withdrawn from the passages when such a torrent
 of blood is discharged that at once unchokes us & places our
 patient in extremis. What more can the plug do than cause
 coagulation at the os uteri & what effect can a coagulum
 there have upon a partially detached placenta at the fundus
 uteri — Altho' I can't agree with Dr Burns regarding the
 rupture of the Membranes, ~~but~~ I do so perfectly regarding the
 use of the plug in Accidental Haemorrhage, (or what is the
 same thing, in Analogous haemorrhages if not called Accidental)
 & that independent of the numerous extracts that have been
 given in certain works on Midwifery deceiving the reader into
 the belief that Dr Burns recommended that practice. He
 certainly speaks very highly in its favour and is not always

very precise in defining the proper cases in which it should
 be used. but if he does not point out distinctly where we are
 use it, he tells us plainly where we are not. "But whilst I so
 highly commend & so strongly urge the use of the Plug, I do not
 wish to recommend it, to the neglect of other means, or in every
 situation. In the early attacks of haemorrhage when the Uterus
 is firm and Manual interference improper, I know of no Method
 more safe or more effectual for restraining the haemorrhage and
 preserving the patient. But when the haemorrhage has been profuse
 & the circumstances of the patient demand more active practice &
 point out the necessity of delivery then the use of the Plug cannot
 be proper - if trusted to it may be attended with dreadful & fatal ef-
 fects - we can indeed restrain the haemorrhage from appearing outwardly
 but there have been cases where the blood has collected within the uterus
 which having lost all power has become relaxed and been slowly en-
 larged with coagula, the strength has decreased, the bowels become inflated,
 the belly swelled beyond its size at the 9th Month altho' not near that
 period, & while an inattentive practitioner has concluded that all was

well with regard to the hemorrhage, the patient has expired." p. 316.

The plug independent of the high authority of Rigby & Denman cannot but be fatal - when there is not a train of unusually fortuitous circumstances attending its use, for the only good it can ever possibly do here of itself is to ^{induce coagulation &} irritate the OS Vaginae thus lead to direct as well as Reflex uterine action - an effect induced, perhaps at the risk of rendering certain what was before doubtful ~~in~~ death in 90 cases of the 100. "The blood" (says Dr. Muggs) "which continues to flow into the womb after the Vagina has been closed by the tampon, may be compared to a river dammed across its channel whose waters in consequence overflow their banks crowning the adjacent country."

In cases of severe exhaustion - where the apparatus has been previously prepared - the hemorrhage stopped, the pulse still distinct altho it may be weak & fluttering, & the whole case apparently requiring but "a little vital stimulus to carry it thro'" - transfusion may be adopted with some hope of success - if there be proper assistance near, the operator skilful, and a healthy subject (gener-

-ally the unlucky husband) be at hand from whom a good supply of blood may be obtained.

The last & most efficient remedy where it is applicable is - introducing the hand, turning the child stringing it away. followed if necessary by the artificial detachment of Placenta.

Suppose when we are called to a case find the Passage cool & dilated & well lubricated with their natural secretion, the os the size of half a crown or a crown piece & easily detachable - What practice are we to pursue? If rupturing the Membranes, it may be with the addition of legot - be sufficient in about 5 cases of every 6, will we not rather trust to this than undertake to turn - an operation which is ever formidable. 3 years ago, most would have unhesitatingly answered in the affirmative - But since the danger of the operation consisting in a great measure in the shock to the system, is now greatly obviated by the exhibition of Chloroform, besides every thing else being rendered doubly favorable - Many would be inclined to proceed at once to turn & simply the uterus - the sure Method of arresting the haemorrhage - But it may be argued on the other side that if

rupturing the Membranes be so often successful why not trust to this in the first place turn after if required - Why always expose the Patient to so severe an operation, before Milder means have been tried; for if they fail, then by the influence of Anesthesia the old objection, that to turn after escape of waters is dangerous and difficult - is done away with in the same degree, that the argument in favour of turning *ab initio* is strengthened -

As a general rule then we would ^{in an ordinary} ~~in~~ case of Accidental hemorrhage where palliative means were unavailing - the Obstetrician advise rupturing the Membranes at once, premising a good dose of ergot - if necessary for the life of the Patient turn afterwards under the influence of Chloroform -

When we have been called to a case of Accidental hemorrhage the true nature of which we have been already made aware of & therefore have the means in our power ready for use, we consider the following as a general Summary of our treatment.

In all cases where the os & passages are not dilated or dilatable enough to admit the hand, the Obstetrician and the

Flooding serious at once rupture the Membranes, give ergot & apply cold to begin as it were the uterine action, after this apply the binder. Or we may after rupturing the Membranes employ Galvanism. When there is any degree of exhaustion give Opium with or without ergot. If much exhaustion give diffusible Stimulants as brandy combined with Laudanum, half a grain suspended according to the urgency of the case. The latter to be done cautiously under our own immediate superintendence. When the hemorrhage is arrested but the patient exhausted then I am doubtful - try transfusion.

If the OS Passagis should be dilated or sufficiently dilatable (some would turn at once) still pursue the same practice unless the patient have already lost so much blood as to render further delay dangerous. When this is the case proceed at once to turn. Again if rupturing the Membranes be unsuccessful or if the waters have already escaped & the flooding continue unabated give Chloroform turn if possible - if not try the forceps, if unsuccessful then Craniotomy or Trepanation.

In the foregoing pages I have successively considered as fully as time & circumstances would permit, the nature of accidental haemorrhage, its causes, its symptoms & its treatment; and under the latter have endeavoured to lay down as clear, short, practical & unpractical a view, as possible, of the various opinions maintained & practices pursued. But when reading the work of the late Dr Hamilton my attention has frequently been attracted by one particular passage; of the possibility of the practice mentioned in which viz. turning with the Os rigid and the Membranes entire. I have in vain attempted to convince myself, either by reading or by study at the bed side. As this however may arise from imperfect observation, & as it would be, if confirmed, an acquisition of no small value; I will now conclude with a quotation from the passage in question "Hitherto the bug-bear which seems to have haunted the minds of practitioners in the treatment of these cases, is the supposed difficulty or danger of extracting the Os literi - But if it be practicable when the Membranes are entire to hook down a lower

extremity of the infant without carrying the hand thro' the os uteri, which the Author most positively affirms that he has done innumerable times, & if when a lower extremity of the infant is drawn thro' the uterus, the cervix & os uteri dilate readily & safely (being duly supported) which, according to his experience invariably happens, all objections founded upon this difficulty or danger of turning must be held to be futile."

N. B. I beg to be understood that the above remarks don't apply to the method of turning by external manipulation recommended ⁱⁿ ^{not} in certain cases by Drs Allan, Burns &c but to that as specified by Dr Hamilton; the possibility of which I readily admit in cases of premature labour or even of well marked hydroamnios at the full time, but certainly not in the ordinary cases that come under our notice.

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