Practical observations on uterine haemorrhage / [William Newnham].

PRACTICAL OBSERVATIONS ON UTERINE HÆMORRHAGE.

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If there be one circumstance in life more replete with danger to female health than another, it is uterine hæmorrhage; if there be one event in life more disquieting to the practitioner than another, requiring especially the developement of his more active energies, his presence of mind, his exhaustless and uncomplaining endurance, and his most zealous efforts to support his patient, to allay the alarms of friends, and not to betray his own disquietude, it is uterine hæmorrhage; and if there be one event more than another demanding the prompt and energetic employment of all the resources of science and of art, it is uterine hæmorrhage;—and these circumstances must plead my excuse for seriously passing over a path so hacknied, in order to restore a few practical rules to their right position in the estimation of my professional brethren.

In the simpler forms of uterine hæmorrhage, where there is only a profuse, or too frequent return of the periodical discharge, there will result to the system, changes of a serious character, and very important to the well-being of the economy.

1. Thus, for instance, the first effect of uterine hæmorrhage will be to produce a want of the usual fulness of the vessels, and in consequence an altered condition of the circulation, both in its capillaries, and in the larger venous trunks.

2. But the blood which remains in the vessels, has also lost its vital properties; it is deficient in red particles; it possesses a large preponderance of serum, and no longer affords that healthful stimulus to the various organs of interior life, which is so necessary to their conservation.

3. An immediate effect of this cause is, that less energy is imparted to the brain and nervous system; the functions of that system are languidly exercised, and oftentimes become irregular or disordered, while the shattered nerves are disturbed from the slightest causes, and the hysterical condition is the consequence; while intellectual activity, legitimate feeling, and sound judgement are not to be found.

4. But the indirect influence of uterine hæmorrhage is also felt by the various organs of the animal economy; for the stomach fails in its digestive power, the assimilative and nutritive functions are impaired; the bowels become sluggish; the heart beats feebly; the arterial system is languid; muscular fibre becomes soft and in-energetic; the whole system is anæmic; the patient is pale, breathless; complains of a beating head upon every exertion; while the legs are too feeble to support the body;—in fact, the aggregate of symptoms forms the history of *feeble life*, and the slightest cause which adds to this feebleness, produces the greatest amount of exhaustion, and often leads to its extinction.

5. Uterine hæmorrhage, therefore, whether considered in its present alarms, its immediate results, or its future consequences, is a malady of no ordinary

importance, and one which requires the best attention that can be given it, in order to succour the best portion of our race—often under circumstances of the deepest, and most alarming interest.

6. Uterine hæmorrhage has been usually divided into two forms, *active* and *passive;* and for practical purposes, this distinction may be made to rest upon the quantity of blood lost in a given time; the former being that disturbance of the uterine vessels, in which a large quantity of red blood is poured out in a short time; while in the latter, though perhaps longer continued, and the drain equal in final amount, yet the profusion is slow, the colour is less bright, and there is less disposition to form coagulæ. Placed as is the uterus, in the animal economy, endued with extraordinary vascularity, in order to enable it to support two lives, when so called upon, viz., its own and fœtal life; and so associated by its nervous connexions, it is not surprising that it should be peculiarly liable to hæmorrhage suraction under any circumstances, but especially in those where its vessels are subjected to the usual periodical excitement; or where they have been enlarged and developed by pregnancy and parturition.

7. There are other properties of the uterine economy, which render it especially liable to hæmorrhage, besides its excessive vascularity; as for instance, its great elasticity and contractility—the former admitting the very large developement of its vessels, and consequent weakening of their parietes —while the latter is required to make the necessary pressure upon them, in order to assist in stopping their bleeding mouths. It is most desirable that these properties be borne in mind, because they have a material bearing upon many points of after-treatment.

8. Another circumstance which materially promotes this tendency to hæmorrhage, is the absence of valves in the uterine veins. It is obvious, that the absence of valves must favour the profuseness of the bleeding, and must add to the paramount importance of securing *coagulation* to stop the mouths of the bleeding vessels: this should form one of the *principles* for the treatment of uterine hæmorrhage.

9. Again, it is to be recollected, that the capillary or exhalent arteries of the uterine system are very numerous—that they are distributed over the entire internal surface of the uterus, and that they terminate in minute orifices which always exhale a certain amount of secretion, and occasionally, or rather periodically, the menstrual fluid. Hence, another *principle* in the treatment of uterine hæmorrhage will be, *the diminution of arterial action*, this being directed by a knowledge of the source from which such action is derived, always recollecting that action and power are not coincident, and that the increased action may be dependent upon a want of power to controul it.

10. It should always be kept in view, that uterine hæmorrhage may be either *external and visible*, or *internal and concealed;* and that the latter is the more formidable group of malady. When, therefore, towards the close of pregnancy, during parturition, or after delivery, we meet with symptoms resembling those which arise from the loss of blood, we must not be lulled into fatal security, by not finding any visible hæmorrhage. If so, the golden opportunity for action may be lost, and we must only be incited the more dili-

gently to inquire into the causes of the symptoms before us, to ascertain whence they proceed; and if possible, to apply an appropriate remedy.

11. Internal hæmorrhage would probably be aggravated in a case of twins, because the uterus is more largely developed; its vessels multiplied; a larger space commonly occupied by the attachment of two or more placentæ; while the atonic state of the uterine fibres prevents that contraction which is essential to the controul of hæmorrhage. After the birth of the first fœtus, there will often happen a partial separation of the placenta, and hæmorrhage may be almost entirely concealed from view by the bag of waters, or the presenting part of the second fœtus operating in stopping the mouth of the uterus, while the circumstances thoroughly prevent the removal of the partially detached placenta of the first fœtus—first, from the uncertainty of its being wholly detached—and secondly, from its probable intimate connexion with the placenta of the second.

12. In highly nervous and sensitive individuals, it should be borne in mind, that hæmorrhage often results from mental emotion, or is fearfully augmented by mental causes. Hence, the production of surprise, the creation of any sudden and powerful emotion, fear, anxiety, grief, apprehension—and generally all the depressing passions should be most carefully guarded against,—while a cheering hope, a quiet confidence, a bright anticipation of to-morrow, should be sedulously encouraged. It is here that the patient's life will often depend upon the self-possession of the medical attendant. The intelligent patient will watch the eye of her accoucheur, which must wear the expression of cheerfulness, whatever may be the sadness of the heart; whatever is done must be quietly done; there must be no hurry, no flustering anxiety, no hasty ill-defined directions, or the patient's confidence is lost, and her life is in the greatest jeopardy. The importance of attention to this mental condition cannot be too powerfully impressed as a practical axiom in the conduct of the accoucheur.

13. Nearly allied to this form of hæmorrhage may be considered that which has been supposed to arise from *spasm of the uterus*. It is difficult to understand how spasm of its fibres in the unimpregnated uterus can produce hæmorrhage, though it is quite easy to comprehend how this may be dependent upon irregular or spasmodic contraction *after* the work of parturition, and the expulsion of the fœtus. The testimony in favour of opiate lavement under the presumed circumstances of spasmodic hæmorrhage, is however, so considerable, that a solution of the problem will probably be found in that state of uterine irritability in which opium under any form affords the most marked relief, and in which, therefore, the opiate lavement has been found signally useful.

14. Another form of uterine hæmorrhage is that which occurs at the critical period of life, more especially, but occasionally also in early single life, and still less frequently during lactation. These forms of menorrhagia are grouped into one family, because they all seem to partake of the same origin—all owing to a certain degree of feebleness of the organs, and generally of the constitution—all more or less partaking of the disposition to action, without power to support it—all being ascribable to inertion on the one hand, or congestion on the other, but never being accompanied with that power of arterial

action which will at all bear the reduction of the individual. Examination at once reveals whether the menorrhagia be dependent upon increased feeble action of the exhalent arteries, or upon congestion of the veins, and suggests the appropriate remedies. These are the cases in which the *abuse* of cold applications has been so signally prejudicial.

15. It may be that menorrhagia is dependent upon hypersthenia of the uterus, or of the constitution generally; and if so, the peculiar indications are clearly shown. But it is very important not to mistake upon these points. A preponderance of the white fluids must not be mistaken for hypersthenia; and it must ever be borne in mind, that general hypersthenia is quite compatible with local atrophy; and that uterine hypersthenia may co-exist with generally defective nutrition. It is obvious that these distinctions will exert a material influence upon the treatment.

16. Uterine hæmorrhage is often dependent upon disease of the organ, which a proper examination will reveal. Hypertrophy, though of a simple character—the presence of ulceration about the cervix or os uteri—the existence of polypus within its cavity—the presence of a morbid growth, such as fibrous tumour, schirrus, cauliflower excrescence, &c. will all be efficient causes in the production of menorrhagia; and must all be studied and distinguished, because upon a successful diagnosis of the malady, will depend the issue of the treatment. In young persons, the presence of inflammation and ulceration about the os uteri is a frequent cause of hæmorrhage. A case of this description lately came before me in a young lady, married, having had several children, and always prone to be rather violently unwell. After the birth of her last baby she had not nursed, because she was considered unable to bear it, yet she had suffered from the usual period very greatly; she had a great deal of pain, and tenderness of the hypogastric region, with profuse discharge; great agitation of the nervous system, and a cough, which her alarmed friends thought to be of the most serious character. A proper examination, aided by the speculum, revealed several little ulcerations about the os uteri: these were treated properly—the hæmorrhage diminished, the cough was gone, the nervous system became quiet, the health was regained, and she will again shortly become a mother. There can be no doubt but that the uterus does exert an extraordinary influence over the general health, and is a frequent cause of anomalous symptoms, which are puzzling and inexplicable. Without going all the length of our forefathers, there can be no question but that in the main they were accurate and truthful observers. All these cases will acquire modifications of treatment, according to their originating cause.

17. It is necessary to notice in this place uterine hæmorrhage, with metastasis. This is rather a rare affection, but it deserves attention. A remarkable case of this kind occurred to myself some years since in a young woman, married, but having no children, and very liable to hysterical paroxysms. Charlotte Bonner was about twenty-three, and in one of these paroxysms of hysteria, she had fallen into the fire, and had been severely burned about the lower part of the body; the burns healed, except upon the inner part of each thigh, where a large wound remained open, and once, in a little more than three weeks, these wounds gave issue to a copious bloody secretion, the menstrual flow being all the time suspended. This having gone on for months

without change, she was received into Guy's Hospital, where she fell a victim to fever. Instances of vicarious epistaxis, or hemoptysis, or hæmatemesis, have all come under my notice, and have been successfully treated by a restoration of the periodical flow.

18. In all these forms of uterine hæmorrhage, it is necessary to make a preliminary inquiry; viz., wherein consists uterine hæmorrhage? It cannot be said to consist in *any quantity* of discharge, but rather by estimating the quantity in relation to the constitution: what is excessive hæmorrhage to one, may be a very moderate discharge to the other; and the constitutional tendency forms the first element in the opinion we shall arrive at ultimately, as to the nature of the individual case. One person will sink away and die, while another thinks herself lightly dealt by if she have no more discharge than the former. Strictly speaking, the menstrual secretion does not coagulate; and the fact of the formation, or absence of coagula, would seem to give a certain ground for deciding the question of hæmorrhage. But even this will not do—for although, generally speaking, it is true that there is no coagulation without hæmorrhage, yet in other cases there is always coagulation at the usual period, without the existence of hæmorrhagic action.

19. The presence of disease in the rectum has sometimes seemed to occasion uterine hæmorrhage; but this requires no extraordinary direction, and will come under the general method of treatment.

20. Having glanced at the general subject of uterine hæmorrhage, we next proceed to that of abortion.

21. In order to arrive at satisfactory results in the management of abortion, it is first of all necessary to discriminate its various causes. It has too frequently happened that the phenomena of abortion have been considered as uniform, and the like method of treatment has been adopted in every instance, without reference to its producing cause; and it is not surprising that its result should have been so frequently unfortunate, because it will be seen from a consideration of the following cases, that they differ so essentially in their nature as not to admit of one uniform method of treatment, with the smallest hope of success.

22. We shall first mention plethora as a cause,—a too great fulness of vessels, and this may be either general or local, dependent upon excessive nutrition, or upon the preponderance of the white fluids. It is more frequently *general*, because nature has so provided for the increased vascularity of the organ, that it is not easy to conceive its suffering from this cause, except through the congestion and oppression of the system generally. Here it frequently occurs, that in her effort to support two lives, and in the increased action of the vessels which is its consequence, there is produced such an amount of general feverishness (more especially in scrofulous constitutions) as to be incompatible with the harmony and well-being of the economy. Accompanying this state, there is usually such a degree of heat as tends to keep up this vascular fulness, and then the uterine vessels become congested; there is a sense of weight, and heat, and fulness, and unless timely relieved by gentle depletion, there is an end to the progress of gestation, and the phenomena of abortion are produced.

23. Precisely the same symptoms are induced by an anæmic condition of

the constitution. Only here the system seems incapable of supporting *two* lives: it will bear a great deal, and maternal health will be very severely pulled upon, before the process of abortion be set up. But it happens sometimes that pregnancy has occurred in a constitution ill able to bear the demand thus made upon its resources, and abortion is awakened almost by a conservative instinct. Now here it is evident that we require the very opposite mode of treatment to *depletion*, and that if in any way, directly or indirectly, we emptied the vessels, we should increase the liability to abortion! Rest, and a strengthening treatment are to be relied upon; the problem is, if possible, to give power without increasing action, to augment the vitality, and diminish the irritability of the constitution.

24. A third cause of abortion will be found in that state of nervous sur-excitation, occurring in any susceptible nervous temperaments, in which there is a remarkable sensibility to impression, and in which every impression makes a more powerful, more sudden, longer continued, and more operative influence: the apparently slightest event produces such a shock to the system, as to disturb the harmony of its physiological arrangements, and often lead to abortion. This state will, to a certain extent, be controllable by the will in some well-regulated minds; but even in these, it will often escape from and go beyond the power of the will; and in less educated persons, the attempt to subdue the acuteness of feeling will not be made; it will be fostered even, as the evidence of a tender and a feeling heart, and it will be encouraged as an amiable sensibility,—at best, but a delicate weakness. In all these cases, action exceeds power; no wonder, therefore, that the local action should exceed the power of organic endurance, and that it should occasion abortion.

25. Another cause of abortion may be traced to original feebleness of constitution, and this may be either general or local; the system may be a very feeble one, and the uterus may partake of its feebleness; or the constitution may apparently be fairly good, and yet the power of the organ may be very feeble. This is repeatedly seen in those who are very ready to conceive, but who do not carry on the process of gestation beyond a certain short time, and this occurring in a great number of successive pregnancies, without any known and sufficient cause to explain the failure. In these cases it will be found that the heart is exceedingly irritable, that there is palpitation, breathlessness upon the slightest exertion, and a tendency to frequent syncope on the one hand, or pulmonary congestion on the other.

26. A fifth cause of abortion will be found in the death of the fœtus, or in an undeveloped, originally imperfect ovum. It would seem that the latter is not a very uncommon state; and it has frequently happened to me to examine abortive products, in which the placenta and membranes were entire, but in which no trace of fœtus could be discovered; in fact the ovum was a blighted one, and either never had contained the rudiments of a fœtus, or these had perished and become absorbed. In either case, to carry on gestation would be absurd, and therefore nature is provoked to set up a process of abortion, as conservative to her own powers, and in furtherance of her future prospects.

27. Another cause of abortion consists in the accidental separation of the *decidua*. A variety of circumstances over which we have no control—a fall—a blow—travelling over a rough road—a sudden jump—coughing—sneezing—

and many other of the common events of life, may, in an individual so predisposed, occasion partial separation of the decidua. This may be again healed, and all may go on well; but far more frequently gestation is arrested, and abortion is the consequence.

28. Constitutional disorder of the parent, the occurrence of fever, small pox, scarlatina, and other maladies occasioning much general disturbance, and lost balance of power, will also often interfere with the progress of gestation, and induce miscarriage, sometimes under very painful circumstances, and with great danger to the mother. The action of violent remedies for other diseases, will also sometimes produce this effect, as, for instance, the disturbance of mercurial irritation; and again, the existence of a constitutional syphilitic taint will prove a frequently recurring cause of abortion, and the patient will never carry a fœtus to its full term, till she has been regularly treated *for syphilis.*

29. We may not omit to mention, as another cause, the existence of organic changes in the uterus. The presence of a polypus, inflammation and ulceration about the cervix uteri, the existence of cauliflower excrescence, chronic inflammation, and cancerous degeneration, will often occasion this evil. It will be found that abortion is very common with those who have had a bad first time, and have been delivered with instrumental aid; or whom, from any other cause, some manipular violence has been inflicted upon the womb, leaving behind it a feebleness which seems to paralyse the gestatory function. Two instances of this kind occur to me, one in which assistance by the forceps was too long delayed, and sloughing of a portion of the urethra and neck of the bladder occurred; and the second, in which forceps were applied, and a dead fœtus was extracted, but the placenta was *adherent;* it was not removed —extensive discharge, and violent constitutional irritation followed; the patient's life was in jeopardy, but after many months of severe suffering, she gradually obtained an imperfect restoration to health. It was then found that there was an obstacle to the usual marital congress, and the patient came over to consult me. On examination, I found about an inch and a half within the os externum, an occlusion of the vagina, apparently almost perfect, but having one small aperture, through which a probe might be passed, and through which flowed periodically in a very sluggish manner, the usual catamenial secretion. It was determined to enlarge this aperture, to divide the cicatrix, and then dilate with bougies. Three small incisions were made, and the dilatation was effected in a comparatively short time, so that in a few weeks she informed me of her being enceinte. But now was developed the disposition to abortion produced by the above narrated organic injury to the uterus; for although she was repeatedly pregnant, the process of gestation was always interrupted before the completion of the third month, and the constitution sunk irretrievably under such a succession of shocks; after a few years the patient fell into phthisis, and died consumptive, the miserable victim of early obstetrical mismanagement.

30. Another cause of abortion is to be met with in the influence of powerful emotions, especially when of a sudden character, and more particularly fear, anger, grief, surprise, disappointment, &c. Uterine susceptiblity, and the highly irritable condition of a nervous system engaged in the support of two lives, added to that peculiar state of vascular excitement, which belongs to the

period of gestation, are causes sufficient to explain this lost balance of power, and the disturbing shock communicated to the organ which is the cause of the final catastrophe. The mind of pregnant women should ever be preserved at ease; and they themselves should be expected to strive so to discipline their emotions and passions as to prevent these evil consequences.

31. Lastly, may be mentioned diseases of the placenta, its malposition, or its separation. It not unfrequently happens, that considerable alteration of structure occurs in the placenta, and renders it unfit for the support of fœtal life, and then nature endeavours to put an end to what must be, if continued, a fruitless process. This probably is the ordinary cause of that separation of the attachment of the placenta to the uterine parietes, which has been considered as a frequent cause of abortion. It is not denied that this separation *may* occur from accidental causes, or from an originally too feeble connexion between the two surfaces; but generally I apprehend the separation to be a consequence of disorganized placenta. Placenta prævia has been considered as a cause of abortion; and it *may* be so, but not generally; for usually it is not till the cervix uteri is considerably developed, and often not till the dilatation of the os uteri commences, that hæmorrhage is found to set in; and, therefore, although it is admitted as an ocasional cause, it is believed to be very rarely such, till the latter months of pregnancy; when it does exist, the treatment is one which will require a discipline of its own at a future page.

32. Before, however, we enter upon this question, we must say a few words on *hæmorrhage after delivery*. This is sometimes one of the most appalling accidents to which female life is subject, and in which the strength of mind of the accoucheur, his self-possession, and the steady and energetic pursuit of the object before him, is tested by severe trial. The patient is confined—she rejoices in the exquisite sense of deliverance from extreme suffering; she expresses herself as in heaven, and the friends are exulting that all is so happily over. But there is no peace yet to the medical attendant—he of course has not quitted the bedside, and probably has become conscious of the rapid flow of blood; he keeps his eye fixed upon his patient; he observes that her previously flushed countenance has become deadly pale, her lips are bloodless, her pulse is feeble, her extremities are cold, her breathing has become hurried or suspicious, she is anxious and distressed; presently there is nausea and often vomiting, and then follows a high degree of restlessness and incessant jactilation; the sensorial powers are still further weakened, the eyes stare and appear astonished; there is increasing difficulty of respiration, accompanied by abdominal meteorism; the uterus is largely developed instead of being contracted; there is increasing anxiety, and perhaps in a few minutes death has closed this sad picture of human misery, and the house of joy has been converted into the habitation of woe. And all this arising simply from inertia, the want of uterine contraction, and partial separation of the placenta, allowing the enormously enlarged vessels to pour out torrents of blood, visibly perhaps, or less overtly, but not less fatally, so as to distend the uterine cavity. The inertia however is not exclusively to be fastened upon the uterus, for in almost every instance, this excessive flow is to be obviated by care, and to be remedied by active, and decided, and judicious treatment.

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33. It may be sometimes obviated by care, so as to remove a very frequent cause of hæmorrhage; viz., the too rapid expulsion of the fœtus. It does happen too often, that when the practitioner has had the pleasure of cheering the maternal ear, by the assurance of the baby's head being born, that she expects the body to follow immediately, and the attendant nurses judge something of the skill of the doctor by the rapidity with which he produces the child. Hence the practitioner is sometimes enticed to forget first principles, and to yield to these prejudices by hastening the delivery—by assisting nature in her own arrangements, and then by extracting the child. This is bad practice, and leaves the uterus uncontracted; whereas, under these circumstances, all that should be done is, to take care judiciously of the funis, if it be coiled round the fœtal neck—and to secure the ready access of fresh air to the mouth and nose of the baby, and to wait for pain, and to let the uterus entirely expel its contents by its own efforts: and if there be some time to wait, and a few more pains to be borne, the patient will be saved from danger, and the practitioner from apprehension—perhaps from the misery of losing a life, which, with more patience and more science, and more independence on his part, might have been saved.

34. This, however, is not the only cause of uterine inertia, for it may occur in the best conducted labour—and it may be *constitutional* or *local*; on some occasions, there seems to be a languor of all the functions of the system—animal life seems enstamped with atony, and the uterus only partakes of the general character. More frequently, however, this is a local condition—a state of defective nervous energy sent to the uterus; in all probability, from this cause, pain has been languid throughout the labour, which has greatly lengthened the process: perhaps pain has been stimulated by the secale cornutum, and therefore the uterus falls into a greater degree of constitutional apathy afterwards: or the labour may have been very protracted, and the patient worn out by pain and loss of rest; or she may have had a very unwise recourse to alcoholic stimuli; or she may have been suffering from painful and harrowing emotions, which may have stolen away her little stock of nervous energy; or the birth of her baby may be a sorrowful, instead of a joyful event to her; or there may have been other causes, both bodily and mental, which may have enfeebled or destroyed the contractile power of the uterus; or the patient may suffer from the confined or heated atmosphere of the room, or from having too much bed-clothes heaped upon her, in order to avoid the old nurse's sole cause of apprehension, lest her mistress "should catch cold;" or she may have been permitted to talk too much, or there may be partial adhesion—and, in part, separation of the placenta.

35. In every instance, then, as soon as the child is separated, the first duty of the accoucheur is to place his hand on the abdomen, to ascertain if the uterus be well contracted, and not wholly or partially inverted; and then, by a careful vaginal examination, immediately to ascertain if there be another

fœtus; if the placenta be lying in the vagina, or in the uterine cavity; if it be attached, or detached; and, generally, if there be any deviation from the most perfect order of nature. Trivial as these directions may seem, they are precautions too much neglected in practice: it is too generally taken for granted that all is well, and the case is left to nature, or to any common interference.

36. Now, if the placenta be retained, the cord is not to be rudely pulled; for, in a state of uterine inertia, such traction might be followed by partial inversion; or, by what is still worse, partial contraction, and consequent *partial* separation of the placenta, and profuse hæmorrhage. In the first instance, the practitioner is to wait and to watch for the efforts of nature. The patient may be suffering at this time from exhaustion, and may require a little gruel or a cup of coffee, or tea, or some camphor mixture, or some sal volatile, or, possibly, but rarely, some brandy. The most important precaution is, at this moment, to secure plenty of fresh air and light covering. It is a too common practice with nurses, who are ignorantly afraid of nothing but their patients catching cold, to heap on one or more additional blankets, and draw the bed-curtains close around; and perpetually to disturb the accouchée, for fear of her going to sleep. Now all these absurd prejudices must be combated;—the most perfect repose should be secured, and plenty of fresh air and light covering, or the blood will be imperfectly oxygenated—the brain and nervous system will become enfeebled—atony of the uterus will be produced or augmented, while the constitution is invited to re-action, in order to supersede its present feebleness. Thus the uterine fibres are relaxed, their nervous energy stolen away, and the arterial system stimulated to action, and then arises hæmorrhage from this cause. It is only a few weeks since I was summoned hastily up-stairs from the drawing-room, to a patient who had just been safely confined, but who was suddenly attacked by hæmorrhage and prostration; she required nothing but the removal of superimposed blankets, and quiet and fresh air, and all was right.

37. If, notwithstanding these precautions, there still persists inertia of the uterus, it should be gently stimulated to action by external abdominal pressure, in the form of *kneading* with the expanded fingers; it should not be simple pressure, nor friction, but the action above-mentioned of *kneading with the expanded fingers;* and to this should be added a little gentle stimulation of the os uteri, with the finger in the vagina. Very generally uterine action will follow, and it will be found that the cord is elongated—a certain proof that the uterus is recovering its power of contraction, unless its fundus has been pulled down by undue manipulation. In this first contraction, it is probable the placenta will have been separated, but not expelled: and if so, unless there be considerable hæmorrhrge, it will be better to wait for a second contraction, and far less risk of hæmorrhage will be incurred by thus waiting, than by passing the hand into the uterus and removing the partially detached placenta, or the wholly detached placenta in a partially contracted womb.

38. But supposing, that notwithstanding the employment of these means, the placenta is not expelled, and hæmorrhage sets in, then comes the question as to what is *the cause* of the bleeding, for it may be various:

1. It may be caused by partial separation of the placenta, before the birth of the fœtus; or it may be occasioned by the self-same pain which accomplishes that birth, and which is usually followed by more or less of temporary inertia: or,

2. It may be *consecutive* to delivery, and may exist because uterine action is enfeebled, or has become irregular, or has been altogether suspended, or is insufficient to separate the usual placental adhesions: or,

3. It may be that the uterus is spasmodically contracted, either at its orifice, or in the middle, the latter constituting what is called hour-glass contraction; and in this case, the placenta is either partially or entirely separated, but is retained in the uterus, and rather operates against its complete contraction; and under these circumstances the blood is often not visible: it is retained and adds to the feebleness of the uterine parietes, while the spasmodic contraction remains the same, and the mischief augments with frightful rapidity: or,

4. It may be complicated by syncope, or convulsions, the result of exhausted power, and consequent irritation of the brain, and spinal nervous system—*not of cerebral congestion*. It is very important to make this distinction, because, unhappily, it is too common to bleed in puerperal convulsions (*quasi convulsions*), without any reference to their cause; and, therefore, *destructively*, when that cause shall have been exhausting hæmorrhage. It is too frequently the case, that practitioners do not distinguish between the convulsions of *oppressed* and *exhausted* brain; both states will produce the same symptoms, but will require very opposite treatment.

39. The present seems to be the proper opportunity for a few words upon internal hæmorrhage—the most formidable of all the varieties of uterine hæmorrhage.

a. It has been usual to enumerate in this class of hæmorrhages those which arise independent of pregnancy, as by the accumulation of the menstrual fluid in imperforate vagina; or, as it has been supposed, in imperforate or very nearly closed os uteri. There is much doubt about the real existence of this latter state, and much reason for not classing the former among the hæmorrhages: for in the first place it is a secretion from the lining mucous membrane of the uterus; and, in the next place, it is a physiologically periodical secretion—never, or at least, not usually large in quantity, nor amounting to hæmorrhage. The class of cases is, however, important, since they may be mistaken for pregnancy, or other forms of malady, and they may occasion a great deal of distress, and impairment of health: two such cases have occurred to me, in which the health was regained by very simple attentions, and by restoring that function which nature had not perfected. The same condition of retained menstrual fluid may happen from inflammation, ulceration, suppuration, and cicatrisation of the vagina; but this is of very rare occurrence in the unimpregnated female.

b. The more common form of internal hæmorrhage is, however, when it is dependent upon a separation of the deciduous or placental vessels; and is more or less important, according to the period of gestation. It is obviously of less importance in the early than in the latter months of pregnancy, because

the vessels implicated are so much smaller; and because, in all probability, it will go on to produce early abortion; while the uterine parietes, being so little developed, do not easily yield to the dilating influence of the clot, and consequently these seem to bring into play the causes operating to occasion a natural arrest of hæmorrhage; while the same causes render internal hæmorrhage less likely to occur, in consequence of the blood being obliged to find an easy exit.

c. The very opposite takes place in the last three months of gestation: for although rare in its occurrence, it is, when present, an event of the most formidable character. The uterus having now acquired almost its full development, and its vessels their intended amplification, the organ itself having become a less resisting body, in consequence of the extension of its fibres—it is capable of yielding more readily, and offers less obstacle to abnormal distension. For the same reason, the deciduous vessels more readily give way under the excitement of an inordinate determination of blood; and these vessels having so given way, perhaps at a much greater distance from the orifice of the womb, the effused blood is more thoroughly circumscribed, and has less chance of making its appearance, so as to render cognizable the cause of the distressing symptoms; while this concealment is still further favoured by the pressure of the fœtus upon the uterine parietes, and especially by its head usually forming so complete a source of obstacle to the issue of the blood.

A small coagulum is capable of producing even fatal effects under these circumstances: but unquestionably sudden death in the last few weeks, or days, of pregnancy, has been often attributed to internal uterine hæmorrhage, when, on post-mortem examination, the uterus alone has been inspected, and the head, the heart, and chief blood vessels, as possible causes of the misfortune, have been entirely overlooked.

It has been justly supposed undesirable, to plug the vagina under these circumstances: unquestionably it is so. By the proposition the hæmorrhage is *internal;* and if it has become partially visible, yet the effect of employing the plug must be, probably, to produce a larger amount of coagulum internally; this, however, being the great source of danger to the system, which consists not so much in the quantity of blood lost, as in its being retained within the uterine cavity.

The only possible advantage in plugging the vagina is, that it may stimulate the os uteri, and produce contraction: and since the existence of internal hæmorrhage is incompatible with the continuance of gestation, it must be considered as a most desirable boon, to establish uterine contraction, and thus put an end to its cause, as well as to its effects. This, therefore, should be the first object of our desire, unless there should exist any contra-indicating circumstances on the part of the parent or the child. If, for instance, there be found placenta prævia, or a cross position of the fœtus, these things require separate consideration: but in the absence of contra-indication, it would be right to rupture the membranes, in order to evacuate the liquor amnii, and secure the effects of such evacuation—viz., uterine contraction, and consequent expulsion of the placenta, or of any coagulum, which may have been formed; and the contraction of the bleeding vessels, and stopping their

mouths; and finally the dilatation of the cervix and os uteri, and the expulsion of the fœtus.

After rupturing the membranes, the head should be raised a little, in order to facilitate the escape of the waters, or of any clots which may be retained within the uterine cavity, in order that the womb may contract and more readily embrace the fœtus. But should alarming symptoms come on, then returns the question, whether turning should not be undertaken. But it will be rendered far more difficult and painful by the escape of the waters: and if there be any prospect of its being required, decidedly the waters should not be evacuated, because upon their presence or absence will hinge the safety, as well as the easy performance of turning.

40. The placenta may be retained from its size, but much more frequently from spasmodic contraction in the middle of the uterus, or at its orifice; and in this way, healthy uterine contraction is prevented: or it may be from morbid adhesion, when, although there may be a good deal of uterine contraction, and a great deal of pain, yet it is not equal to the detachment of the placenta: and this adhesion being generally over a portion of its surface only, other portions are detached, and hæmorrhage is profuse. Now in this case it is clear, that the object is to produce uterine contraction; but this can only be effected by superseding the spasm, and getting quit of the placenta. A full, in fact, a large dose of opium, is the best remedy for this purpose; and *then* the hand is to be introduced into the uterine cavity—not for the *first* purpose of removing the placenta, which may be done rudely and violently, and the patient may die immediately from the shock of the nervous system. But the hand is to be gently and quietly insinuated, not for the purpose of tearing away the placenta, but of bringing on uterine contraction. With this view, gentle pressure may be exerted upon its parietes, and the hand may be gently and quietly moved from one side to the other, and in a little time contraction will very generally be felt. If, however, the placenta be morbidly adherent, it must be very gently peeled off from the uterine surface, and then being grasped by the hand, it is not to be *drawn away*, but *expelled* by the contraction of the womb, which will presently occur. At this time it is most important also to withdraw all the coagula which may be in the uterine cavity and then the whole placenta and coagula may be drawn out of the vagina at once.

41. It has been said that the hand should never be introduced into the uterus, and that fatal results would often accrue from such procedure. But this is absurd: it is not the introduction of the hand, but the mode of its employment, which does the mischief. Two things are especially to be observed in this process; first, gentleness; and, secondly, waiting for the expulsion of the placenta by uterine contraction, not by drawing away the hand with the placenta, and leaving the contraction to chance.

42. It may happen that a portion of the placenta is not to be separated without rudeness and violence; and when this is the case, the better plan of treatment is to remove all those portions which can be easily detached, collect them together, and bring them away when the hand is expelled. It is best to avoid the *frequent* introduction of the hand, and therefore all that is to be done, should be accomplished at one time; and if gentleness, and perseverance,

and scientific management be pursued, the portions remaining will not be large —and their continued presence will afford far less irritation than their violent removal. In this case the adherent portions will decay, aud will be gradually thrown off by a kind of sloughing process; and during this time the uterine cavity should be washed out with some camomile tea, in order effectually to remove the irritative secretions which are sure to be produced, and to facilitate the detatchment of the morbidly adherent portions.

43. In the case, on the contrary, in which the placenta is not expelled from pure atony of the uterus, the retained placenta acts as a secondary cause of the inertia, which again is the cause of the bleeding, and of the absence of contraction—the placenta is not to be detached, which will only add to the hæmorrhage, and will not restore uterine action, or exhausted constitutional power. These latter are the two great desiderata; and under such circumstances, it is principles which must be referred to and acted upon.

44. In this case, the hand retained in the uterus often produces a salutary stimulus to uterine contraction, gives a little aid to failing power, and to a certain extent supports and contracts the bleeding vessels; and it is always to be remembered, that when the placenta is separated, it is not to be withdrawn by the hand, but both the hand and it are to be *expelled* together; the greatest danger attends the forgetfulness of this principle.

45. Cold suddenly applied, especially by means of a syringe, is a powerful stimulus to contraction; and it is to be employed with this object, not with the intention of *arresting hæmorrhage*, except indirectly. In the application of ice, or cold in any other form, care must be taken to avoid the depressing influence of their long-continued application. The patient should be preserved cool and quiet, but should not be kept *sopping wet*, which reduces vital power, tends to deceive the attendants as to the quantity of actual hæmorrhage, and by checking the capillary circulation on the surface, tends to congestion of the uterine vessels. And indeed, where there is much exhaustion, *hot applications*, both general and local, will be of signal advantage, and will relieve and comfort the patient, without in any degree increasing the hæmorrhage—will support the vis vitæ—and perhaps too, will communicate that increased tonicity to the fibre, which shall enable the uterus to contract. The grand object is uterine contraction, and perhaps it is here that the ergot of rye may be useful: unquestionably wine and brandy will be admissible—but above all things, opium is the sheet anchor—*the* remedy upon which the greatest reliance is to be placed. The agency of these remedies will come to be discussed more particularly presently, when we speak of the treatment of uterine hæmorrhage in general.

46. It is, however, impossible not to notice in this place, the importance of the accoucheur concealing his own anxiety from the notice of his patient, and of those around her. At a time when alarm is depicted in the countenance of attendants, when friends are losing their self-possession, when hurry and confusion, and sighs and tears, become the order of the day in the sick-room, it is for the practitioner to exhibit the majesty of his own mind, and his power to subdue feelings (which are probably far more acute in his own bosom than in that of the bye-standers), so that he shall be calm and self-possessed—directing the removal of all attendants who cannot behave pro-

perly, and, above all, preserving his patient from the contagious dominion of fear —a passion, the influence of which, when the system is struggling against fearfully destrustive agents, would be quite enough to turn the scale adversely between life and death, when the issue is so trembling in the balance that the least emotion thrown in on the wrong side will utterly and irretrievably destroy the equilibrium. It has happened to me, many times, to have it remarked afterwards by my convalescent patient, "Oh! those foolish people would have destroyed me! Nothing but your quiet manner,—your cheerful countenance,—and your sustaining encouragement *saved my life!*" *Saved a life!*—And is not this a rich compensation for an hour of agony, and a steady adherence to duty? In fact, I quite agree with others, that uterine hæmorrhage, *after delivery*, should never prove fatal to a well instructed accoucheur, called in in proper time, before death was already triumphant.

47. Before quitting the subject of hæmorrhage after delivery, it will be right to mention the necessity for artificial support to the abdominal parietes. This should be accomplished by a well-made bandage; which, in individuals predisposed to hæmorrhage, should be applied before labour is very far advanced, and should be gradually tightened in proportion as the abdominal tumor becomes lessened. In cases where this should not have been thought necessary as a measure of *precaution*, yet should it be always adopted immediately upon the occurrence of hæmorrhage. There are objections to the employment of partial pressure—such for instance as that proposed to be effected by means of a basin placed on the abdomen, which must be obvious; but especially that it conceals the uterus from our knowledge, and we cannot judge of its condition; and that it has a tendency to prevent that gradual subsidence of the uterine tumor, within the pelvis, which is most desirable,—as well as that it tends to favour the formation of coagula in its cavity, and to prevent their expulsion.

48. One of the most important measures of safety at the moment is the introduction of the hand into the uterine cavity, and this not for the primary purpose of withdrawing the placenta, but of exciting uterine contraction. If this be adopted in a gentle manner, there is no risk whatever; the risk consists in the shock to the nervous system, arising from attempting too much, from rudeness and violence, and from tearing away the placenta,—in fact, from doing every thing which ought not to be done. The hand then should be quietly and gently introduced; and in this way the most accurate and the earliest information will be obtained of its condition; upon which the management of the placenta will depend, since the object sought after is uterine contraction, not placental detachment. This is so all-important an axiom, that it cannot be too frequently repeated. The uterus should be gently stimulated to contraction; and this not by the pressure of the hard knuckles upon its sensitive parietes, but by gentle manipulation, and pressure with *the tips of the fingers;* which if those organs be as well educated as they ought to be, will give an accurate measure of the degree of pressure employed, and will convey the earliest intimation of the first symptom of contraction. Once introduced, the hand is not to be withdrawn till the uterus is contracted, and the placenta separated and expelled.

49. If syncope should occur at this time, it is a formidable symptom, but

not so formidable as restlessness, because, for the time being, hæmorrhage will be arrested by it, and time will be gained; and if it be not too long prolonged, or too intense, we should not be diligent in recovering it: it is of great importance to prevent the hurry and confusion which often arise among bystanders, from the impression that the patient is dead; cool air should be freely admitted; the patient should be laid prostrate by taking away the pillows from under her head; her face should be fanned; suddenly cold water should be dashed upon it,—and if the fainting should continue too long, then the usual stimulating the nostrils, and the local or constitutional employment of ammonia, wine, or brandy, may be advantageous, till the heart has resumed its action.

50. Having once secured uterine contraction, expulsion of the placenta, and moderation of hæmorrhage, the patient is even now not to be left for several hours, inasmuch as internal hæmorrhage may go on *immediately*—the uterine fibres may again yield and be developed—and the sufferer may again be placed in hopeless danger unless her medical friend be at hand. For now unless the uterus be again emptied of its coagula, and its contraction secured, the result will be most mischievous; the same plans are again to be put in requisition, but above all, in this case, the remedy to be relied upon is OPIUM.

51. The all-important question of the management of placenta prævia must now engage our most serious and unprejudiced attention. Formerly, when Rigby was the text-book for the management of uterine hæmorrhage, it was always considered, that in accidental hæmorrhage, it was sufficient to rupture the membranes, and leave the rest to nature: but that in all cases of *necessary* hæmorrhage from the implantation of the placenta over the os uteri, the case was not thus to be consigned to nature's agencies; but that where the hæmorrhage was considerable, and the os uteri was dilated or dilatable, it was right to rupture the membranes, and by the same effort to pass the hand through the said rupture, and turn the child while yet it was most easy to accomplish,—even while it was floating in its own waters,—and while a good accoucheur would turn the baby without trouble to himself, and without risk to the mother. The results of this plan have been, in the hands of many, so thoroughly satisfactory, that they have scarcely thought an ordinary case of placenta prævia formidable, when the pelvis was of the standard capacity, and the os uteri was dilatable. True indeed, that they were aware, that occasionally where placenta prævia existed, the placenta had been detached by the mere efforts of nature, and had been born *first*—being instantly followed by the fœtus. These examples were so rare, as to excite wonder, whenever they occurred, and to be chronicled as unusual phenomena—exceptions to every general rule, and only a class of cases, where everything being favourable, nature had contrived to secure herself from extreme danger and difficulty.

52. It was reserved for the last few years to witness this *exception* to nature's usual processes, adopted *as the rule of conduct*, and to have it propounded by some, that it was better in every instance to detach the placenta, and then leave the case. It is always dangerous in conduct to adopt the exception as the rule; and although it may ultimately prove to be the truth, yet before such a line of conduct can be unequivocally adopted, the most searching inquiry should be made as to its principles and advantages. It is

well known, that in arm presentations, nature sometimes accomplishes the birth of the fœtus, by what is called a process of spontaneous evolution—a process really easily understood: but it is unreasonable to expect that this should be the general course; and it is not allowable to draw the inference, that it would be well to trust to nature's own powers, in such a deviation from her physiological functions.

53. Perhaps the question must be ultimately determined by the relative number of maternal and fœtal lives saved. But there are difficulties in the way of obtaining such information, first—from the prejudices of medical men leading them to view events through the vista of their preconceived opinions; secondly—from their want of candour leading them to forget their failures, and to chronicle all their successes; and, thirdly—from the difficulty of instituting a comparison, which, in order to its correctness, must be drawn between females of the same ages and temperaments, and habits, and position in society, and previous associations—whether of sorrow or joy—and having been attended from the beginning by equally well-instructed, and judicious, and careful, and unselfish, and gentle, and enthusiastic practitioners,—persons who would inspire confidence or the contrary, or persons who, from their rudeness, would preclude their success.

54. It is obvious, therefore, that a mere statistical account of certain numbers who have died, and certain others who have lived, will not lead to a settlement of this question, though we rejoice in the accumulation of such evidence, and are grateful for the labours of Dr. Simpson, Dr. Wright and others. Particularly would we refer, with especial pleasure, to the scientific views of the latter, as evinced in a little brochine, which we strongly recommend to the attention of every body interested in this great question.

55. It is said, and I think it must be considered as established beyond a doubt, that *alarming* hæmorrhage ceases as soon as the presenting placenta has been thoroughly detached from the uterine parietes, and the inference drawn is, that the case may now, without fear, be left to nature. The objections against this practice, are—

1. That in the most formidable cases of uterine hæmorrhage, it is inapplicable, viz.—in those occurring about the sixth or seventh month, when the neck of the uterus is undeveloped, and when the placenta cannot be detached, without a degree of violence and internal injury altogether unwarrantable.

2. That in the ordinary cases, it requires as much time, and as much violence to the uterus to detach the placenta thoroughly, as it does in a well informed accoucheur to pass his hand—rupture the membranes—turn the child and bring down the feet, when the hæmorrhage usually greatly abates.

3. That if the placenta be detached, and the case be now left to nature, it may be *even some days* before uterine pain is established; and although there may be no hæmorrhage, yet the patient suffers great risk from the irritation and decomposition of the placental mass,—while the practitioner, his patient, and her friends, are all kept in a state of intense anxiety.

4. That the life of the fœtus is inevitably lost, except in some exceptional cases, and these so few as not to be worthy of being taken into the calculation.

5. That the loss of maternal life is not diminished,—for although the

depressing consequences of hæmorrhage may be lessened, yet the irritation of the nervous system is so proportionally increased, that the actual loss of life is not diminished.

6. That the indulgence thus afforded to vicious indolence and inattention, is an element of the most serious importance in our estimate of the new practice. Every one can very easily detach a placenta, and relieve himself from the responsibility of the case, by casting all the rest upon the resources of nature; and leaving the fatal event to be scored up to her deficient resources. But every one is not possessed of those physical and mental qualifications, which would give him the self-possession of conscious power adequate to the occasion, or the firmness which would ensure steadiness of purpose and of action under the most trying circumstances. For all those, therefore, who do not feel themselves equal to the management of placenta prævia, it would be a matter of no small moment, if they could exonerate themselves from the burden of action, and stand by in the (guilty) attitude of expectation.

7. Another objection to the proposed plan, will be found in the existence of cross-presentations, which it is obvious *must* be left to themselves—*must* become exceedingly difficult of management if the waters have escaped—and if not, would be rendered less easy and successful from the degree of decomposition which would have taken place.

56. There may be cases of distorted pelvis, in which this mode of treatment may be valuable: but how very few are such cases: and in the only other case to which it can be supposed to be applicable, it has been shown that the irritation of the undeveloped neck of the uterus, might be fearful in its consequences.

57. In the management of placenta prævia, apart from the ordinary treatment of hæmorrhage which will yet come to be considered, the first thing to be ascertained when called to such a possible case, is the cause of the hæmorrhage; and this cannot usually be obtained without introducing the *whole hand** into the vagina, for the purpose of enquiring, first—whether the cause of the hæmorrhage be placenta prævia or not; and if so, whether it be centrically attached over the os uteri, or only partially so; and, secondly—the period of pregnancy; the degree of development of the neck of the womb; and

* The importance of this advice will be shown by a recent fact. A poor woman sent for her accoucheur on account of her being attacked with uterine hæmorrhage in the night. When the practitioner arrived, he found the hæmorrhage, which had been very considerable, moderated; he made the usual examination per vaginam, but of course learned nothing with regard to this all-important subject; the hæmorrhage subsided, and did not return for several weeks. Then it occurred again in the night, but trusting it would pass away as it had done before, no notice was taken of it, and the accoucheur was not sent for. Two days later it again returned more violently in the night, and he was summoned. He sent over some medicine, and desired to be informed if the hæmorrhage did not subside. In three hours he was again summoned, and went immediately, arriving just in time to see the patient breathe her last. Now, had this first examination been complete, and the existence of placenta prævia thereby established, the patient's friends would have, at all events, been informed of her danger, and cautioned to send immediately on the first symptom of hæmorrhage, and then they would not have wasted two precious days in doing nothing: and further, the mind of the practitioner would have been alive to all the exigencies of the case, and he would not have lost three hours, during which a human life hung trembling in the balance; but even if the event terminated unfortunately, would have had the satisfaction of having done what he could.

whether the os uteri be thick and rigid, or thin, soft, and easily dilatable. In conducting this examination, the patient must be previously informed of its necessity; and care must be taken not rudely to displace the coagula which may have formed upon, and stopped the mouths of, the bleeding vessels; nor to tear up fresh vessels and to renew the bleeding,—the great object being to obtain knowledge, but to keep the womb quite quiet and free from irritation.

58. Having ascertained that the placenta is not attached to the os uteri, or (in other words, that the hæmorrhage is accidental), if the neck be undeveloped, it is better to wait till the membranes may be easily ruptured—and then break them, and leave the remaining issue to nature.

59. In those cases in which the placenta is found to be centrically attached over the os uteri, but the neck is undeveloped and rigid, in our treatment, we must fall back upon general principles; we dare not interfere as yet, and must be contented with putting into practice the general plans of conduct to be presently noticed. Before the seventh month, should hæmorrhage occur, occasioned by placenta prævia, the neck of the womb will not be sufficiently developed, to admit either the separation of the placenta, or the introduction of the hand: both plans would be so extremely dangerous, that the hæmorrhage must be treated upon general principles, and careful waiting must be enjoined, except that if life be threatened, there could be no valid objection against introducing a small trocar and canula through the placenta, so as to evacuate the liquor amnii, and bring on parturient pains. This might be done without risk of increasing hæmorrhage, and without the remotest injury to the mother; the child is not yet to be considered as "*viable.*" Still this is supposing a case which is very rarely to be met with, because hæmorrhage from placenta prævia does not usually occur, till the neck of the uterus is considerably developed,—sometimes even not until the os uteri is beginning to dilate. There is, therefore, no certainty that the case is not one of placenta pævia, because hæmorrhage has only shown itself when pain has commenced. This hæmorrhage may, or may not be important—and there is no certainty on the subject, no safety to the mother, no security to the practitioner, but in introducing the hand into the vagina, and becoming certain upon the subject.

60. Above all things, let the practitioner beware of leaving such a case to nature's agencies; or of waiting in the hope, that some unseen, unknown good would arise from her conservative efforts. Nothing but danger results from delay; nothing but inevitable destruction from trusting the case to the chapter of accidents; whatever is done should be done promptly, steadily, energetically, but not rudely. Whenever there exists a suspicious hæmorhage, its cause must be defined, and being ascertained to be placenta prævia, the membranes should be ruptured, the hand introduced, and the child turned and delivered; *provided always*, that the os uteri be sufficiently dilated, or *easily dilatable*. If neither of these states be present, we must wait, enjoin perfect rest, act upon general principles;—in a robust person, exhibit nauseating doses of antimony, or ipecacuanha, and wait till sufficient relaxation has taken place.

61. Here comes the question, whether ætherisation would be admissible under any circumstances. Perhaps it might: but in the present state of our

knowledge of this agent, I have too much horror of the remedy to venture upon its employment, because the prostration of the nervous system, which it occasions, and the diminished vitality of the blood, would be a fearful addition to the struggle already going on; while opium will, in the *present case*, afford all the advantages of æther—and, more than all, because while it diminishes the hæmorrhage, it calms, and sooths, and supports, the nervous system; perhaps because it produces a certain degree of congestion in the cerebral veins—and, by so doing, gives to the brain that support, of which it has been deprived by the loss of blood.

62. It is a question, whether the fœtus should be reached and turned, by going directly through the substance of the placenta, or by passing the hand by the side of that body, and rupturing the membranes high up in the cavity of the uterus. It has been thought, that by the latter plan, less hæmorrhage was likely to ensue—the escape of the liquor amnii would be rendered more gradual, and the version would more readily be effected by the fœtus being so completely surrounded by the liquor amnii. It appears to be immaterial which plan shall be adopted, provided the decision be made judiciously; either plan may be chosen, according to the circumstances of the case: but it is really neither a matter of difficulty, nor of danger, to go through the placenta in search of the fœtal feet; and by a properly informed practitioner, the turning will be effected with the greatest ease.

63. It has been said, on high authority, (Blake's Aphorisms) that "if the placenta be expelled first, the hæmorrhage will continue till after the patient is accouchée." But there seems to be sufficient evidence of the fact, that hæmorrhage will cease, or become so moderate as not to create anxiety from the moment that the placenta has been thoroughly detached; and moreover, if this were not the case, where there has been pain enough to detach and expel the placenta prævia, there will have been also pain enough to ensure the expulsion of the fœtus, and to accomplish that amount of uterine contraction which will afford security to the patient.

64. With Mauricean and other early writers, who believed that when the placenta presented, it had *fallen* from its primary situation to the mouth of the uterus, it was customary to advise the *removal* of the placenta *first*, from the supposition that it lay there unattached; and was, in fact, a hindrance to the completion of nature's processes. Rigby admits the occasional occurrence of this case, as giving rise to this general but erroneous view. The case of this separation of the placenta, and its falling down to the os uteri, so as to become the presenting part, is really inconceivable. For, first, how can it have happened; and, secondly, how can it be distinguished? That which has evidently been mistaken for this case, is one in which there has been no hæmorrhage, till the mouth of the womb has begun to dilate—in which, such dilatation has gone on rapidly, so that when the practitioner is first called, he finds the uterus largely dilated—the placenta presenting, and occupying a considerable portion of the vagina. It is then concluded, that an ordinary case of placenta prævia, *never can* have gone on so smoothly; therefore it must have been that the placenta originally occupied its normal position, and by a too hasty generalisation it is inferred that all cases are of the like kind.

65. The causes of failure in the ordinary treatment of the placenta prævia consist in the too great delay of the timid or hesitating practitioner in applying the remedy, in the hopeless exhaustion of the mother, or in the rudeness of the manipulation employed. It is proposed to obviate these evils by the early detachment of the placenta; and it is manifest, that this will, in a great measure, obviate the danger of delay. It must be allowed, also, that the evidence is in favour of the diminished hæmorrhage, and consequently lessened exhaustion; and it is admitted that the rudeness of manipulation may be identical in both cases.

66. With regard, then, to the two former supposed advantages, is there not an over-abundant compensation afforded by the vastly increased loss of fœtal life, by the risk and danger of attempting to detach the placenta while the os uteri is still rigid and its cervix undeveloped; by the augmented irritation of the nervous system arising from the presence of these dead masses in the uterine cavity; by the fearful amount of risk to the mother, in every case of malposition, which would ultimately require turning; and by the false security and consequent inaction, into which the accoucheur is thrown by relying upon this novel and comparatively untried mode of relief, and sitting by in passive indolence, waiting for nature to complete the result under circumstances to which her powers are really inadequate?

67. A word or two must be supplied as to the management of the placenta, which is retained after the expulsion of the fœtus at its full term; and also of the treatment of the contents of the ovum in cases of abortion. It has been made a question, whether in the latter cases the placenta should be left entirely to nature to throw off when she pleased, or whether it should be removed by art. Experience shows that the placenta is not long retained in the uterine cavity, without producing a high degree of local and constitutional irritation; and, therefore, it should be received as an axiom, that the placenta is never to be left in the uterine cavity to be dealt with by nature. The great admirers of the natural history of disease, will of course contend that it should be left to nature's own resources. Facts and experience show that such resources will commonly lead to the extinction of life, and therefore a wiser plan is to be sought out and pursued; while, at the same time, a wanton interference with nature's agencies is to be deprecated.

68. In the early months, abortion being threatened, and the expulsion of the fœtus having occurred—the placenta being retained, it is always to be recollected, that the hand cannot be carried into the uterine cavity,—this, therefore, being out of the question, the hæmorrhage will then become very moderate; and yet, notwithstanding, the attendant is not to be lulled into a fatal security, since it may recur at any moment when the separation of the placenta has commenced. In such cases, if there be nothing urgent in the symptoms, nature may be left to herself for twenty-four hours, but if after this time, the placenta has not been expelled, it will become necessary to inquire into the cause of its detention. For this purpose the hand must be introduced into the vagina, in order precisely to ascertain the nature of the case. If it be found that the os uteri is open, but that there is no trace of placenta, the exploration must not be carried further; no violence must be done to the uterus; the case must be left to nature,—an aperient should be exhibited

or a large lavement should be given—and the case may be left for another twenty-four hours.

69. But if in conducting this examination, it is found that the placenta is partially expelled, and actually occupying the mouth of the womb, or that it is lying within its undeveloped neck, within reach of the finger, it may be attempted to be gently withdrawn by one finger introduced within the uterine cavity, or by a finger and thumb antagonistically employed in the vagina. And if the extraction of the placenta be not thus easily accomplished, recourse may be had advantageously to the little forceps so admirably adapted to this purpose, and recommended by Dr. Radford of Manchester, which will be found efficient and useful;—at any rate this case is not to be abandoned to nature!—the practitioner's energies are not to slumber till they have provided for the patient's security—or in other words, till the placenta has been judiciously and carefully removed. In all these cases, the determination of the time for interference must be guided by the previous history and precise nature of the case, and by considering the patient's powers, and the peculiarities of her constitution, particularly with regard to hæmorrhagic tendency, or to the existence of any organic malady.

70. Not so with respect to retained placenta after the birth of a fœtus at it's full term. Here to leave the work to nature would be criminal; and the accoucheur is never to quit his patient's bedside till it be accomplished. Usually the placenta will be expelled in a few minutes; its first detachment is easily known by the lengthening of the cord, and then it will very generally be found occupying the vagina. In this case, however, it will sometimes happen, that the placenta has been mainly separated, but that it remains attached by a small portion of its surface. If, as occasionally occurs, the placenta is of an unusually soft structure, great care will be required to remove the whole, and there will be much risk, lest the larger part should be detached, and a small adherent portion should be left behind. But perhaps pain is altogether suspended, and the uterus does not contract upon its contents so as to effect the separation: in this case a dose of opium is the best remedy.

71. Again, there may be a great deal of pain, and the uterus may contract a great deal, but does not expel the placenta, because it is implanted abnormally,—or it contracts spasmodically either at it's orifice or in it's middle, forming hour-glass contraction; and the placenta may be actually detached, and lying in one or other of these compartments. Here a full opiate is to be exhibited, and when its effect may be supposed to have been produced, the hand is to be passed into the uterine cavity. If the spasm has subsided, the enclosed or adherent placenta may be discovered; if merely retained, it may be carefully and easily removed; on the other hand, if adherent, the placenta may be gently separated, and then allowed to be expelled by uterine contraction, with the hand in the vagina. All this will be easily effected, if timely and gently manipulated.

72. With regard to the general treatment of uterine hæmorrhage, there are several important questions to be discussed, and we shall now take a concise review of the subject, occasionally embracing the opportunity of collateral discussion as it may be presented.

73. None can doubt the necessity for rest—absolute rest, under the circumstances; since from whatever cause the hæmorrhage may arise, whether

from threatened abortion, from accidental separation of the decidua, from local excitement, from congestion in the uterine vessels, from constitutional or local feebleness, from hæmorrhagic tendency, from nervous and spasmodic irritation, or from placental misplantation,—still in every case the body must be placed at rest—recumbent—with the pelvis gently elevated, with the mind preserved as free as possible from care and anxiety, and in the first instance with an avoidance of all stimuli, external or internal.

74. On the subject of temperature there is considerably more of doubt. Nobody will call in question the necessity for avoiding the general stimulus of heat, or that the patient should be kept cool with an abundance of fresh air, and with very light covering. But there are mistakes with regard to the long continued application of cold; since the effect of this long continued application, is—

a. To deprive the capillary vessels of their blood.

b. To diminish their calorific powers, and to subdue their nervous sensibility.

c. To make the patient wretched and miserable by lying in a pool of wetness.

d. To depress the powers of life, and by so doing, to diminish the chance of that elastic re-action which will be ultimately required.

e. To produce congestion in the internal viscera, and more especially in the organ just now so super-abundantly supplied with blood, and by so doing to keep up rather than to diminish the hæmorrhage.

f. To render the accoucheur uncertain as to the extent of the hæmorrhage, from the blood being mixed up with the water so employed.

75. These are not speculative objections; they have been culled at the bedside of the patients, and upon a large comparison of sufferers differently treated, and have wrought the conviction that the *long-continued* application of cold in uterine hæmorrhage is undesirable; and that it is unnecessary, because the cases do better without it. It is, upon reflection, obviously undesirable to send away the blood from the skin, to produce shivering, goose skin, pallor, feebleness of capillary circulation; or, to diminish the vital powers; or to produce congestion in the large uterine veins; and yet all these results follow upon the adoption of a practice which is *intended* to diminish hæmorrhage by the contraction of the bleeding vessels.

75. It is not objected that the application of cold is never useful, for its sudden impression is often advantageous in arresting the flow of blood, and perhaps giving nature an opportunity of pursuing her own plans of stopping hæmorrhage, and without impairing the re-active power, upon which we shall have to fall back in every serious case of uterine loss.

77. When therefore cold is applied, it should be in the early stages of bleeding, and even here the admission of cold air may be too great; the patient should be kept cool, but not shivering and miserable. The application of cold by means of cold water or a freezing mixture, should be made suddenly and briskly, but not continuously, so as to obtain its contracting agency without the attendant depression, and the patient should on no account be kept wet and wretched. If cold be applied in the form of ice, it should be by introducing for a short time a plug of ice into the vagina, so as to secure its influence upon the uterine vessels, rather than upon the external capillaries. But it would not be safe to allow ice to remain very long in the vagina at one time,

lest the vital powers of the contiguous vessels should be depressed beyond measure and irrecoverably depressed.

78. There are also many cases of exhausting uterine hæmorrhage, with tendency to spasm, and excited nervous sensibility, in which hot applications to the hypogastric region will be decidedly useful in allaying the flow and producing comfort: a mustard poultice above the pubes succeeded by hot cloths, or dry cupping, will be more useful than the application of cold in any and every form.

79. There are but two methods of arresting uterine hæmorrhage, first—by producing uterine contraction; or, secondly—by the formation of a clot within the mouths of the bleeding vessels, neither of which processes will be facilitated by the long continued application of cold. It is fully admitted, that the application of cold vinegar and water to the face often relieves the patient, not however through a direct agency upon the bleeding, but simply as a reviver to the nervous system, and sustaining it during the exhausting influence which is going on.

80. Bleeding.—It has been a very common practice to bleed in *all* cases of uterine hæmorrhage in the *early months* of pregnancy; it is this only which merits discussion, for in the latter months usually the hæmorrhage is so alarming, that the question is not so much as to the best means of protracting *gestation*, but as to the most efficient plans of carrying the mother speedily and safely through the dangers of parturition. Confining our observations, therefore, to the early months, the questions to be considered are as to the *causes* which are threatening to produce abortion;—and as to the prospects for the continuance of fœtal life.

81. Abortion frequently arises from excited nervous sensibility; from inattention to the state of the bowels, whether they be confined or too much acted upon; from great feebleness, and an anœmic state of the system; and it is clear that in all these cases, bleeding would be inadmissible.

82. Bnt if there be a dull and insensitive nervous system; if there be a state of general plethora; if there be a full—hard—jerking hæmorrhagic pulse; if there be obvious hyperœmia; and if there be signs of local congestion, then a moderate blood-letting may produce an immediate and a salutary influence, provided that the prospects of fœtal life should render it desirable. It must, however, be always borne in mind, that every ounce of blood may be of great ultimate importance; and the only just reason for blood-letting, must be to save blood-effusion. Moreover, it must ever be remembered, that quickness of pulse is not an indication for bleeding; the pulse will be quickened in proportion as hæmorrhage continues and the powers of the system are enfeebled. Care must be taken not to mistake the pulse of constitutional effort for a hard pulse. That which will justify bleeding, is the full, hard, strong pulse—not the quick, irritable, vibrating, wiry pulse, which is only rendered such by the heart's deficient supply, and the consequent irritability of the nervous system. A mistake here may cost the patient her life; and therefore it is of infinite importance for the practitioner to discriminate nicely, to judge accurately, as well as to act firmly. The value of life is too lightly thought of: we cannot estimate it too highly—nor feel too deeply our responsibility to preserve it.

83. Another circumstance to decide the question of venæ-section is as to the fœtal prospects. A careful examination must be made of the uterus; if the os uteri be found closed and healthy, there may be a good prospect of continuing gestation, and bleeding may be adopted, if otherwise indicated; but, if on the contrary, it be partially open, relaxed, pouting, with dilated flaccid vessels, abortion is inevitable, and it would be unwise to bleed.

84. The question of bleeding being thus settled, there arises the enquiry how far other sedatives may be useful, and among others *cooling drinks* taken internally. It is desirable that the sedative effects of cold applied to the stomach should be employed to a certain extent; but these require care, to avoid, in the first place, the too great *quantity* which will produce fulness in the vessels, and so keep up *action*, without contributing to the increase of power; and, secondly, that the vis vitæ be not so reduced as to enfeeble the heart's action beyond measure, and thus hasten a fatal catastrophe. Very small quantities of tea might be taken *occasionally*, but it will not be borne, if frequently or largely administered; and, as a general rule, *very cold*, or *iced milk* is the best fluid that can be taken; it is grateful to the patient, a sufficient degree of sedative influence is obtained, small quantities are enough, and thus, the plethora ad-molem is avoided, while the energies of the system are recruited, and its power retained under the most trying circumstances. It should be recollected even here, that the quantities taken must not be large, for fear of disturbing the stomach; a phenomenon always attended by great exhaustion of power.

85. Other methods for the employment of cold have been suggested, and especially that of *cold lavements*; and these may be made useful if judiciously employed. In the first place, it is of great importance that the rectum should be thoroughly washed out; and, inasmuch as aperient medicine cannot always be relied upon for its degree of action, and may be either excessive or insufficient, and may be accompanied by tenesmus on the one hand, or by straining on the other, it will be better to have recourse to a tepid lavement in the first instance, to clear out the larger bowel, and afterwards, from time to time, to inject a quarter of a pint of very cold water, with from 30 to 60 minims of laudanum, by which means, we shall secure the advantage arising from the contraction of cold and the sedative agency of the opiate.

86. While speaking of the advantages of cold lavemens, we cannot extend the same amount of praise to cold injections thrown into the uterine cavity. The application of ice to the vagina for a very short period may be admissible, though requiring the greatest care; but the injection of cold into the uterine cavity, just after it has been emptied of its fœtal contents, and is suffering from inertia, may be attended by the most serious consequences—may produce the most violent nervous symptoms—may rather tend to aggravate the already existing inertia—and perhaps to produce fatal effects. This plan of treatment would be obviously inadmissible in cases of hæmorrhage where the uterus retained its contents.

87. One of the most important sedatives is quietness of mind,—and it is of the greatest consequence to soothe the patient's anxieties, to dissipate her apprehensions, to cheer her despondency, and to throw the bright ray of hope over futurity. Hence it is that confidence in the medical attendant is of the

first importance to the patient; and that her calm and quiet reliance, on his unmoved, kind, steady, and persevering attentions, should remain unshaken. This is, to him, one of the most trying emergencies of life; but as he values his patient's safety, and his own character and peace of mind, he must do violence to his own feelings, for they must never seem to be moved, and his fortitude must remain unshaken.

88. There are, however, other sedatives to be considered, which are medicinal; and, among these, digitalis may be mentioned. To say nothing of its uncertainty and capricious influence, or of the time it would require to secure its effect upon the system, the principle upon which it could be given is erroneous. Could it produce a soothing, modifying influence upon the uterine vascular system, without a corresponding depression upon the heart and nervous system, it might be a valuable agent. But since it is well known, that its agency upon the heart is depressing beyond calculation, and that a similar influence is exerted upon the nervous system, it is clearly one of those remedies which should not be employed. Even were it advised in the early months of pregnancy in order to control hæmorrhagic action, still it is probable, that its tendency is to favour and produce abortion, rather than to retard it, and therefore it should be banished from the list of remedial agents in uterine hæmorrhage.

89. It is a very common practice to exhibit the mineral acids—alum, gallic acid; and in cases of chronic hæmorrhage, these remedies may be employed with signal advantage; but in the active hæmorrhage to which our observations chiefly are addressed, they do not appear to exert any influence which can be relied upon; and great care should be taken that they be not trusted to, for by such confidence, we shall be losing sight of the more important agents.

90. We must here notice the exhibition of the ergot of rye,—a remedy concerning which mistakes are constantly made,—and the employment of which requires much care and discrimination. It is not my intention to discuss its *modus operandi:* certain it is, that it has an astonishing influence, when judiciously administered, in augmenting feeble uterine contraction; and nobody can have witnessed its unerring agency without being convinced of its power.

91. Hence, it has been highly vaunted as a remedy in uterine hæmorrhage, and under certain circumstances, it is unquestionably useful; but these circumstances are limited. It has been supposed to possess the power of checking hæmorrhage, and therefore it has been given in all sorts of bleedings. My firm conviction is, that it is perfectly inert when administered with this intention, and that if the production of the state of ergotism have any influence at all over hæmorrhage in general, it is by so poisoning the blood, as to diminish its vitalising influence, and thus checking its morbid flow, by decreasing the action of the heart upon its poisoned contents.

92. The only real good which the ergot can produce, is by *increasing* languid action of the uterus. I say, *increasing languid action*, because this it will never fail to do, when given judiciously. But it has been given to produce action of the uterus, and in this it will be found to fail repeatedly. It is not its locus standi to produce action where no action previously exists, but to increase the strength and frequency of pain, where pain already exists.

Often and often have practitioners told me of their having tried ergot without any effect; and doubtless, because they have exhibited the remedy without thought, as mere routinists, without a principled application of its powers. Ergot is not to be administered to produce uterine action, nor to check hæmorrhage, but to add to the power of feeble uterine contraction.

93. Again, its exhibition is limited under many circumstances of uterine hæmorrhage in the latter months, not only by the fact of there being no uterine contraction, but even where there is feeble contraction, and there may be present co-existingly, the necessity, or the probable necessity for turning. No man in his senses would think of giving ergot where there was a probability of his being called upon to alter the position of the fœtus.

94. Again, it should at all times be very cautiously given when there is a *known* tendency to uterine inertia, and hæmorrhage after delivery; for the uterus having been violently stimulated to expel the fœtus, often falls immediately afterwards into a state of atony, and fearful hæmorrhage may be the consequence. A dose of ergot exhibited immediately *after* the fœtal birth, may in such a case be oftentimes useful, and may prevent hæmorrhage by causing rapid uterine contraction, and the expulsion of the placenta.

95. The exhibition of this remedy, therefore, will be useless in cases of threatened abortion, until the expulsive pains have actually set in; it will be useless in all cases where the expulsive nisus is wanting; it will be useless in all cases requiring turning; and it will only be useful in aiding feeble uterine action already established, though languidly.

96. *Plug.*—It may be sometimes useful thoroughly to plug the vagina in cases of uterine hæmorrhage, in order to facilitate the formation of a clot upon the mouths of the patent vessels, and thus to assist in arresting the hæmorrhage. But even here, there are cautions to be observed. Doubtless the employment of the plug can be traced back to the very earliest periods of obstetrical science; and in all probability the astringent pessary of Hippocrates must be considered in no other light than as a *plug*.

97. In the early months of pregnancy, when there is threatened abortion, and the uterus is rigid, and will not yield to any trifling opposition to the flow of blood; or when hæmorrhage occurs from placenta prævia before the mouth of the womb is dilated or dilatable, then the plug may be employed with signal advantage.

98. But in the other formidable cases of uterine hæmorrhage in the latter months, it will be better not to employ the plug, where there is any danger of internal hæmorrhage going on unperceived, because the blood will not readily find its way out by the os uteri. In such a case, hæmorrhage which is formidable, but manageable, will be converted into a far more threatening condition, and perhaps may very speedily terminate existence. In all such cases, if the hæmorrhage be dependent upon accidental separation of the decidua, it is best to rupture the membranes, and leave the rest to nature; but in those cases of placenta prævia which will require turning it will be better to turn as soon as the os uteri is dilated or dilatable. Thus, the employment of the plug, however valuable in itself, is limited in its sphere of application, and will inevitably do mischief if applied indiscriminately. It has been said, that there is no risk in employing the plug, so long as the os uteri is rigid; but

this is a mistake. The os uteri may be *rigid* while other fibres of the uterine body may be inert and yielding—and thus the greatest evil may be produced without our being aware of its presence.

99. *Emetics.*—It has been proposed to give antimonials in uterine hæmorrhage; and they may have their place in those cases of rigid uterine fibre, which forms the chief obstacle to scientific treatment; and there may be a few cases of robust fibre, where the prostration of nausea may do good, but these cases are rare; generally the system will not bear the depressing influence of long continued nausea,—and full vomiting is decidedly objectionable.

100. *Stimulants.*—Brandy and wine have been largely administered,—and there are cases to which these stimulants may be useful, but their sphere is a very limited one, when compared with opium, and they should be given cautiously, and thrown aside as soon as the re-acting hæmorrhagic pulse and a hot skin shall have been produced.

101. *Oxide of silver* on the one hand, and *arsenic* on the other, wisely and judiciously administered, are decidedly useful in many cases of chronic hæmorrhage at the critical period of life; and, if used with discrimination, will be followed by beneficial results.

102. The *super-acetate of lead*, and *gallic acid*, are both of them occasionally useful in uterine hæmorrhage, but must not be relied upon with too great confidence. Nevertheless, these remedies are not to be rejected, but only to be considered as greatly inferior to

103. *Opium.* It is not perhaps every case of uterine hæmorrhage in which we would recommend the exhibition of opium, because there may be instances of plethoric constitution, in which the remedy might be useless and even injurious. But in every case of formidable bleeding the pulse is so rapidly sunk, and exhaustion sets in with such awful haste, and the pulse so soon becomes quick from irritability, and the nervous system gets disturbed, and unconquerable restlessness sets in, and the symptoms arising from the emptiness rather than the fullness of vessels are so prominent, that it is then we especially need the supporting influence of opium; it is then we shall find it as our *main point d'appui;* it is then we shall find it our stronghold, eminently worthy of confidence, and that which will carry our patient through dangers of the most appalling character.

104. We are not prepared to say in what way opium contributes its supporting influence to the vis vitæ, whether by its direct agency in soothing the irritated nervous system, or by producing that artificial fulness of the cerebral vessels which preserves the vascular system from sinking, till other means have been timely employed; or whether by a controling influence over the flow of blood; we will not take upon us to decide these questions. Suffice it to say, that the influence upon the patient is most marked, her jactitation is removed, sickness quieted, hæmorrhage lessened, cheerfulness augmented, pains relieved, apprehension and despondency gone, heart enabled to carry on its function, and generally the patient is rescued from despair to hope, from the shadowy border which separates life from death to the terra firma of of convalescence.

105. To secure these effects an ordinary dose of laudanum will not suffice, or a single dose, however large; it must be given in the first instance as a dose

pre-eminently large, and this must be frequently repeated, so as to keep hæmorrhage in check and support the vis vitæ, while other means may be employed. There is nothing to fear from large doses under these circumstances; they will not produce a narcotic effect, while their influence in supporting power is undeniable. Of the employment of galvanism on the one hand, or chloroform on the other, in the treatment of uterine hæmorrhage, I have not sufficient experience to venture an opinion. Perhaps my friends Dr. Radford and Dr. Simpson may contribute to supply this deficiency.

106. We must add a few words on the treatment of hæmorrhage arising from separation of the decidua, or of a portion of the placenta, when it is not implanted over the os uteri. In these cases, the membranes should be ruptured and the liquor amnii discharged, when the case under certain circumstances of caution may be left to nature.

107. The object of rupturing the membranes is, first—to secure contraction of the uterine fibres upon the bleeding vessels; and, secondly—to induce the parturient efforts, which will still more effectually restrain the hæmorrhage. It has sometimes been doubted whether the effect of this process upon the uterine fibre is great, and therefore the practice has been stigmatised as useless. The objection really arises from want of observation, for if the practitioner has ever been called to turn a fœtus where the liquor amnii has been evacuated, perhaps several days, he *can* have no doubt of the contractile power of the uterus. The severe pressure upon his own hand, and the extreme difficulty of altering the position, will surely be enough to convince him that the effect of such a process of contraction upon the continuance of hæmorrhage must be very great, and he will be driven away by fact from the delusive visions of theory.

108. It is necessary, however, to ascertain the nature of the presentation, lest it should be one requiring alteration, which we should render difficult by allowing the escape of the fluid, and the consequent grasping of the fœtus by the uterine fibres. It is also desirable to estimate the quantity of water, because if there be present only a very small quantity, the loss of that quantity will not produce an *immediate* effect upon the hæmorrhage, but only its secondary advantage of producing uterine contraction.

109. This fact may be readily known while the hand is in the vagina, because having ascertained that the presenting part is the head, the whole body may by gentle pressure be made to float readily in its surrounding fluid. Then good will arise from rupturing the membranes, because the parietes of the uterus being distended by the presence of the waters, will, on allowing their escape, embrace the more closely the surface of the fœtus, and will, to a certain extent, compress the placenta between itself and the uterine walls; the uterine vessels will be contracted, the circulation through the placenta will be diminished in force, and thus hæmorrhage will be lessened, while the irritation of the fœtal surface coming in contact with the irritable uterine parietes will excite them to contraction; the os uteri being rendered predisposed to dilate by the previous hæmorrhage, yields easily, and labour terminates naturally.

110. But when gestation has arrived towards the end of the ninth month, and the pelvic tumour formed by the head of the fœtus and neck of the uterus is considerable, it is no longer easy to test the quantity of water by the

plans above recommended, the membranes contain but a small quantity of water, not perhaps sufficient for its artificial evacuation to produce any remarkable change on the state of the uterine parietes, or the uterine circulation, and therefore not sufficient to arrest the continuance of the hæmorrhage, and under such circumstances the evacuation of the liquor amnii requires grave consideration, and must be decided entirely by the desirableness of bringing on the parturient crisis.

111. When it has been determined in placenta prævia to proceed to the operation of *turning*, the first question is whether the fœtus shall be reached through the placenta, or passing the hand by the side of that body, in order to rupture the membranes. The only real question is, which can be effected with the least loss of blood, and must be determined by the position of the placenta. If only a border of the placenta present itself over the os uteri, it will be better to pass the head by its side; but if it be implanted centrally over the os uteri, it will be better to pass the hand at once through its substance. The rent thus made need not be large, while the pressure upon the vessels occasioned by the presence of the wrist is an important agent in diminishing hæmorrhage. It is not after this period that bleeding is to be so much dreaded, if the case be judiciously managed; for the membranes are now easily ruptured, and the version of the fœtus is as readily accomplished; and having done this and brought down the feet, the pressure upon the vessels will be kept up by the buttocks or body of the child. If the uterus be acting pretty forcibly, the usual rules for a footling case are to be observed. But, if the uterus be inert, a dose of the ergot of rye may be given with decided advantage. If delivery be now long of completion, fœtal life will be sacrificed; but if it can be speedily effected, there is a good prospect for its preservation. It is at this moment, therefore, that the ergot of rye will be invaluable, because uterine contraction will expel the fœtus—arrest the hæmorrhage, and detach the placenta. When the head has been delivered, the fœtus should be given to an attendant, and the usual care must be given it, according to circumstances. The practitioner is on no pretext to leave his patient; and one or more additional doses of opium will now be required. The hand had better be introduced into the vagina, in order to gather up the fragments of the placenta; these, however, are not to be rudely and rapidly torn away; on the contrary, it is supposed that the uterus is contracting, and with a little care and management, the afterbirth will be expelled, and the whole may be gently removed. If the uterus be in inertia, the hand had better be carried forward within its cavity, and employed, as before recommended, to excite its contractions. But if the patient has been brought thus far in safety, there will not be much fear of ultimate success, though there may yet remain a period of intense anxiety, *because* one of doubt. If, however, the plans indicated have been energetically and perseveringly pursued, the uterus will be now tolerably contracted, and the hæmorrhage will have become slight, and the restlessness and irritability of the stomach will have been lessened, and the pulse, though still feeble and irritable, will have become a more distinct beat. If the patient be now supplied with a small quantity of milk and a tea-spoonful of brandy every few minutes or quarter of an hour, and be kept perfectly quiet and undisturbed, and a dose of opium be given if any additional flagging of the pulse should

take place, in an hour or two she will be so far recovered as to be in security. Still there must be no attempt to move her, or make her comfortable as it is called; a little dry warm linen should be placed underneath her, and the body must be kept warm, while plenty of fresh air is afforded for the lungs; and the patient must not be allowed to talk, and anything said to her must be of a most cheering character; and presently the life that was in imminent danger will be in the haven of security.

112. Only one word remains to be said on the subject of convalescence. It is astonishing how the system seems to bear up under, and to rally from, the effects of uterine hæmorrhage; and a few weeks or months will be sure to re-establish health, by the simplest plans. The object, at first, is to support, without stimulating the constitution, and with this view, great attention should be given to diet. It is probable that for some time a little wine or brandy may be required in the gruel taken; but this may gradually be diminished, and good soup may be substituted. One great caution, is the avoidance of mental excitement, keeping the mind at ease, secluding the patient from visitors, and screening her from all other causes of disturbance. By degrees she will be able to take quinine or iron, or better still, a combination of the two, which produces an admirable influence upon the general health.