appears at the commencement of the labor, it may cause the death of both mother and child, before the labor can be terminated. The danger is greatest, however, to the child, unless the flow be very profuse indeed, and then it is equally so to both. After delivery, the danger is of course only to the mother; and the rapidity with which it may compromise her life is in some cases fearful. Dr. Lee thus speaks of such cases:

"But one of the most dangerous varieties of uterine hemorrhage is that which follows the expulsion of the placenta, or its removal from the uterus by art. Sometimes the blood escapes in great quantities from the uterus immediately after the removal of the placenta, and the pulse ceases at the wrist, and consciousness is entirely lost in a few seconds. There is no symptom before labor has commenced, or during its progress, to warn you of what is about to take place. The child has been safely delivered, the placenta has come away in a short time, and while you are perhaps congratulating yourself on the happy termination of the labor, the blood begins to trickle over the bed upon the floor, or the patient suddenly complains of great faintness. In such cases there may be either a want of uterine contraction, or the contractions may not be permanent, but be followed by relaxation and the effusion of a large quantity of blood, which may either appear externally, or remain to become coagulated, and distend the uterus. For several hours after delivery, in some cases, this alternate relaxation and contraction goes on, to the great hazard of the patient, and if her condition be not clearly ascertained, and the proper remedies be employed, death may unexpectedly take place."

In regard to the treatment, he gives such excellent and practical rules, that I cannot do better than quote them:

"By far the most important remedies in these cases of uterine hemorrhage are constant and powerful pressure over the fundus uteri, the application of cold around the pelvis, and the free administration of wine, brandy and other stimulants—ergot is indicated, but it most frequently produces no effect. The pressure and cold are always within our reach, however sudden the attack may be. The hypogastrium should be strongly compressed with the binder, and a pad of folded napkins placed under it, and in addition the hand should be firmly applied over the fundus uteri. I do not know who it was that first employed compression of the fundus uteri in cases of flooding after the birth of the child; but it has been often recommended, and there are few practitioners in this country who are not fully aware of the importance of the binder and pad in exciting permanent and regular uterine contractions. Dr. M'Keevor states that, in 1815, it was recommended by Dr. Labatt in his lectures, and for a number of years before this Dr. Labatt was accustomed to recommend a thick firm pad, or compress over the pubes, previous to the application of the ordinary binder, where, in former labors, uterine hemorrhage had taken place. Dr. M'Keevor states that of 6,665 women delivered during the years 1819 and 1820, only twenty-five were attacked with hemorrhage after the birth of the child. Of these, fifteen occurred before the expulsion of the placenta, ten afterwards, and in all the results were favorable. He saw only two fatal cases during the time he was in the Dublin Lying-in Hospital, and he attributes this small mortality partly to the process of parturition being left entirely to the unassisted gradual efforts of the uterus; partly to the patient having been kept cool and quiet, free from all sources of disturbance and irritation; but, above all, to the careful application of the binder immediately after delivery, by which means the expulsion of the placenta, and permanent contractions of the uterus, are most effectually secured, and whenever any tendency to hemorrhage did occur before the removal of the placenta, the first point invariably attended to was to tighten the binder, and in the event of this not succeeding, a thick firm compress, made by folding a couple of large coarse napkins into a square form, was placed over the region of the uterus, and the binder again adjusted. In the great majority of instances, these, with the admission of cool air, checked the discharge; if not sufficient, additional pressure was made with the hands.

"At the same time that you efficiently compress the fundus uteri with the binder and pad, cold should be vigorously applied to excite the contractions of the uterus. The best mode of doing this is to plunge a large napkin in a pitcher of cold water, and dash it suddenly against the external parts, the nates and thighs; and this should be repeated till the uterus contracts, and the violence of the hemorrhage is controlled. I am satisfied that this is the most efficacious method of applying cold to excite uterine contractions; it is far less formidable than pouring water from a height over the naked abdomen, but it is not less efficacious, and it possesses these decided advantages over the other method, that while the application is made to the external parts, nates, and thighs, the pressure of the binder and pad is not withdrawn from the hypogastrium, the position of the patient is not changed from the side to the back, the bed is not inundated with water, and the application can be repeated as often, and continued as long, as the urgency of the symptoms may require. The abdomen may be exposed once, and cold water poured over it from a height, and the uterus made to contract, and the flow of blood be arrested for a time; but relaxation of the uterus may follow after a short interval, and the hemorrhage be renewed again with equal violence as at first; but we cannot with propriety expose the abdomen a second time, and empty over it from a height the contents of a great decanter or kettle. Besides, by adopting this practice, we sacrifice the whole of the effects derived from pressure on the fundus uteri. The application of a napkin soaked in vinegar and water to the parts is often sufficient, along with the binder, to restrain the hemorrhage where it is not very profuse.

"I have very seldom introduced a plug of any kind into the vagina in these cases, but when there has been a draining of blood from the uterus, after the practice now described has been employed, a large soft sponge passed into the vagina, and pressed up against the os uteri, has appeared in some cases to promote the coagulation of the blood. The sponge, however, cannot be employed with safety after the expulsion of the child and placenta, unless the uterus be firmly compressed above the brim of the pelvis to prevent its becoming distended with blood. More frequently I have had recourse with good effect, to the introduction of several pieces of smooth ice into the upper part of the vagina, and allowing them to remain there, in contact with the os uteri, and be dissolved; or pieces of ice have been inclosed in a bladder and laid over the pubes.

"Other means besides those now described have been recommended in cases of flooding after the expulsion of the placenta. It has been proposed to inject cold water into the cavity of the uterus by means of the stomach pump, and favorable reports have been given of the practice. The effect, I think, would be similar to directing forcibly a stream of cold water against a stump, soon after amputation; the coagula in the cavity of the uterus and in the orifices of the vessels would be all washed away: nevertheless, it might perhaps be advantageous in some desperate cases. Port wine and water, as cold as possible, Dr. Collins says, injected into the

rectum, has been of service. Some of the earlier writers on midwifery, and many in the present century, have strongly recommended the introduction of the hand within the uterus for the purpose of removing the coagula accumulated within the cavity, and to excite the uterus to contract. But it is not necessary to pass the hand into the uterus for the removal of coagula, because if the binder has been properly applied, and strong pressure made over the fundus uteri, clots cannot accumulate within the uterus, and if they have been permitted to collect in consequence of neglect, then expulsion will immediately follow the use of proper compression of the hypogastrium, without the introduction of the hand. Nor do I consider it necessary, to excite uterine contractions, that the hand should ever be introduced into the cavity of the uterus after the removal of the placenta. I am fully convinced, from repeated observation, that this practice, which is so common as to be almost universal in this country at the present time, is often not only ineffectual for the purpose, in the worst cases of flooding, but that it is often followed by the most pernicious effects; the coagula which nature has formed have been displaced by the hand, and the uterus has not been excited by the stimulus of it to secure a permanent contraction. In the greater number of fatal cases of uterine hemorrhage after the expulsion of the placenta, which have come under my observation, the hand had been introduced into the cavity, and the closed fist had been pressed for a longer or shorter time round and round against the lining membrane, to make the uterus contract. I do not recollect a single fatal case, where the unfortunate result could be fairly attributed to the want of the introduction of the hand into the cavity of the uterus, and the friction of the knuckles against the lining membrane. I have repeatedly passed the hand into the uterus to produce contraction, but it has refused to obey the stimulus of the hand; it has remained like a soft flaccid bag, more like a piece of intestine than uterus, and the blood has continued to pour down the arm, until the hand has been withdrawn, and more efficient remedies employed. Leroux was well aware that the stimulus of the hand would not in all cases excite the uterus to contract, for he observes, 'where the os uteri is contracted, the means indicated by Levret are very efficacious, and remove the hemorrhage as if by a charm. But it is not so in complete inertia of the uterus; often it is widely dilated, and offers no resistance to the introduction of the hand. The introduction even of the whole hand excites little sensation, and the woman will promptly perish from hemorrhage if other means more active and certain are not employed to prevent it.' The tampon or plug is the remedy Leroux recommends in cases of flooding after delivery, and he affirms that it will often succeed in stopping the flow of blood when all other means fail. Dr. Dewees observes, that he has not found it necessary to introduce the hand, for the purpose of stopping a hemorrhage after the expulsion of the placenta, during the last five-and-thirty years, as he regarded the practice as always frightful, and oftentimes unnecessary and pernicious. But it is difficult to subvert an established mode of practice, however unsound, and probably some of you, without much reflection, because you have heard this recommended, will pass up the hand into the cavity of the uterus after the expulsion of the placenta, on the very first occasion that you have an opportunity of doing so, remove all the coagula, and rub the inner surface with the fist till you are tired, without effect. I have seen cases repeatedly where this has been diligently performed by those who had neglected to apply the pad and binder, and all the other means now described. If you pass the hand at all within the parts, which I strongly suspect you will do, let me entreat you to carry

it no farther than the os uteri, which you may, with much less risk and with greater effect, press and rub with the fingers and irritate than the inner surface of the body and fundus of the uterus.

"Mauriceau recommends that women who are subject to flooding after delivery should be bled twice or thrice from the arm during pregnancy, and once, or oftener, after labor has commenced. There are cases of uterine hemorrhage after the delivery of the child and expulsion of the placenta unconnected altogether with any plethora, or an excited state of the heart and arteries, and where bleeding and low diet do not prevent the accident. Rupturing the membranes at the very commencement of labor is by far the best remedy, the only thing indeed upon which any dependence can be placed.

"After attacks of uterine hemorrhage, the patient should not be raised from the horizontal position for several hours, and the strength should be supported by wine, beef-tea, and light nourishment. Brandy in gruel sometimes agrees when wine is rejected. A good large dose of the liquor opii sedativus often produces the most decided benefit after the hemorrhage has ceased; there are few cases before this in which opium does good, though it is constantly given in all the varieties of flooding, even when the great object is to excite uterine action. Where recovery is to take place after uterine hemorrhage, says Dr. M. Hall, the pallor of the countenance, the disposition to syncope, the coldness of the extremities, the feeble state of the pulse, and uninterrupted respiration, pass gradually away. Where the case is to terminate fatally, the symptoms gradually assume a more alarming aspect, the countenance becomes pale and sunk, the respiration stertorous, and the pulse cannot be felt at the wrist. There is great restlessness, and before death one or more fits of convulsions sometimes occur. Where recovery takes place, in some women it is astonishing how little permanent inconvenience is felt from the great loss of blood which they have sustained. In the course of ten days or a fortnight the effects have entirely disappeared; and this is the most common result. In some women, a violent determination of blood takes place to the brain, marked by heat, strong pulsations of the carotid and temporal arteries, intolerance of light, and all the symptoms of inflammation of the brain or its membranes. A strong febrile attack is also sometimes experienced, without an increased determination of blood to any particular organ. These affections of the brain and nervous system are aggravated by depletion. The patient should be kept in a cool, dark room, and mild cathartics, anodynes, and antispasmodics, occasionally given. Where there is much headache and throbbing, a few leeches should be applied to the temples, and a cold lotion to the scalp."

These remarks of Dr. Lee, as to bleeding frequently making the after symptoms worse, should be carefully borne in mind. There is no doubt but that too copious, or too frequent bleeding, during pregnancy or labor, disposes the female to many serious dangers afterwards. I have known some suffer constant headache, dizziness, and loss of memory, for weeks after from it; and others have even been made lightheaded.

To the above remedies I would only append one other, which has, on many occasions succeeded, when all others have failed, namely *galvanism*. This has, at the last moment, when the female was sinking, brought on uterine contractions, stopped the flooding, and saved her life. The application is very simple; one pole being placed on the back, immediately between the hips, and the other over the uterus. Or one of the poles may be coated with wax, all but the end, and introduced into

the vagina, so that the unwaxed part may touch the mouth of the womb, while the other is placed over the fundus, or on the back, as found most efficient. The power should be sufficiently strong to produce contraction, and the application must be continued till the contraction remains after the pole is withdrawn. No medical man should give any female up who is flooding, no matter how severely, till he has tried galvanism. In various well-known medical works will be found many cases, with such plain directions that any one could follow them and apply it.

The presentation of the placenta, or its growth over the mouth of the womb, is the most serious cause of flooding, and generally makes any attempt to check it of no avail, except *delivery*. The discharge however nearly always occurs before the full period, and either causes miscarriage or necessitates premature delivery. Dr. Lee remarks:

"In the greater number of cases of placental presentation the discharge of blood takes place spontaneously in the seventh and eight months of pregnancy, and can be referred neither to bodily exertion, external violence, nor to any unusual determination to the uterine organs, or congestion of their vessels. The hemorrhage generally comes on suddenly, when the woman is in a state of rest, and the blood continues to flow until faintness or even syncope takes place. It often ceases entirely, and the patient resumes her usual occupations, and has no dread of another attack. But after an interval of several days, and sometimes not before two or three weeks, the flooding is renewed, and perhaps with increased violence, or a constant profuse discharge takes place, and a decided effect is produced upon the constitution, the pulse becomes rapid and feeble, and the countenance pale. Similar attacks return at longer or shorter intervals, and if delivery be not accomplished by art, sooner or later death takes place. The first attack of flooding seldom proves fatal, but it sometimes does so; for in a case which occurred in the British Lying-in Hospital, the life of the patient was at once extinguished by a single gush of blood from the uterus. I examined the body after death. The center of the placenta was over the center of the os uteri.

"When flooding takes place to an alarming extent in the seventh or eight months of gestation, you ought first to ascertain, by a careful internal examination, whether or not the placenta be situated at the os uteri. It is impossible, from the manner in which the discharge of blood takes place, to be certain of the fact; for there are some cases of hemorrhage from detachment of the placenta from the upper part of the uterus, where the flooding occurs spontaneously, and to as great an extent as in cases where the placenta presents. In some cases I have been induced, from the symptoms, to believe that the placenta was at the os uteri when it was not. As the treatment and the successful or fatal result of the case will, in a great measure, depend on the correctness of the diagnosis, the examination should be conducted with so much care and circumspection as to leave no room for doubt on the subject. An ordinary examination, with the fore and middle fingers, is generally sufficient to enable us to ascertain the true state of the case; but where the os uteri is very high up, and directed backwards, it becomes requisite to introduce the whole hand within the vagina. The finger should then be passed gently through the os uteri, and, if the placenta adheres to the cervix, it will be distinguished from coagulated blood, the only substance with which it can be confounded, by its firmer, fibrous, vascular structure, and, above all, by its adhering at one part to the uterus, and being separated at another. If you will take the trouble to pass the finger carefully and repeatedly

over the uterine surface of a recently expelled placenta, you will never, in actual practice, mistake a placenta at the os uteri for a clot of blood, however firm. In all cases it is requisite to proceed at once to determine by an examination, so carefully conducted as to render a mistake impossible, whether or not the placenta presents—even though the hemorrhage should be slightly renewed by the displacement of the coagula; you cannot be too early acquainted with the precise condition of the patient. You ought, at the same time, to ascertain whether the placenta adheres partially or completely to the cervix uteri, and whether the os uteri is in a condition to admit of the operation of turning being performed.

"The operation of turning, which is required in all cases of complete placental presentation, is not necessary in the greater number of cases in which the edge of the placenta passing into the membranes can be distinctly felt through the os uteri. Sometimes there is profuse and dangerous hemorrhage where the placenta does not adhere all round to the neck of the uterus, but only partially. If the os uteri is not much dilated or dilatable, the best practice in these cases is to rupture the membranes, to excite the uterus to contract vigorously, by the binder, ergot, and all other means, and to leave the case to nature: by adopting this treatment the operation of turning may be avoided with advantage in the greater number of cases of partial placental presentation. But, if the hemorrhage is profuse, has returned at different intervals, and a great quantity has been lost, and the constitution is really affected, it is the safest practice at once, if the orifice of the uterus is in a condition to allow the hand to pass without difficulty, to deliver by turning the child.

"Where the placental presentation is complete, the operation of turning should be performed, in all cases, as soon as the orifice of the uterus is so much dilated or dilatable as to allow the hand to be introduced without the employment of much force. It is seldom safe to attempt to deliver by turning before the os uteri is so far dilated that you can easily introduce the points of the four fingers and thumb within it: however soft and relaxed it may be, until dilatation has commenced, and proceeded so far, I am convinced there are very few cases in which the operation of turning will be required, or completed without the risk of inflicting some injury on the os uteri. This is a point of the greatest practical importance, but I do not know in what manner to communicate to you, in words, a more clear and definite idea of the grounds upon which you ought to proceed.

"In every case, before attempting to turn, make a most careful examination of the os uteri, and endeavor, from the degree of dilatation, and the thinness and softness of the orifice, to form a correct judgment upon this point, before interfering, for the hemorrhage will be renewed if the attempt is unsuccessful, and the patient will be placed in a worse condition than she was before. When you have resolved to turn, let the patient lie on the left side, with the pelvis close to the edge of the bed, and introduce the right hand into the vagina as before described, and then pass the fingers and hand gently and slowly in a conical form through the os uteri, giving it time to dilate, and onward into the cavity between the detached portion of the placenta and the uterus; then force the fingers through the membranes, grasp both feet, and bring them down into the vagina, and *slowly* extract the child as in the case of nates presentation, and do not afterwards be in a hurry to remove the placenta, unless it is wholly detached and lying in the upper part of the vagina. This operation is easily and speedily performed when the os uteri is widely dilated and dilatable. It is, however, a great exaggeration of the facility with which turning

may be accomplished in these cases, to represent it as a very simple process—like putting the hand into the coat pocket and pulling out your handkerchief. At the best it is a dangerous operation, and you can never tell with certainty whether or not the patient will recover after its performance, however easily it may have been effected.

"But there is not unfrequently most profuse and alarming flooding from complete placental presentation, where the os uteri is so thick, rigid, and undilatable, that it is impossible to introduce the hand into the uterus without producing certain mischief. In thirteen out of thirty-six recorded cases the os uteri was rigid and undilatable. The tampon or plug has no power to restrain the hemorrhage in such cases, nor do I know of any other means—neither cold, quietness, nor opium—which effectually have, and it is sometimes absolutely necessary under such circumstances to deliver by turning, before the hand can possibly be introduced into the uterus without producing fatal contusion or laceration of the part. I have found in several of these cases, however, that the delivery may be safely accomplished by merely passing the hand into the vagina, and afterwards the fore and middle fingers between the uterus and detached portion of the placenta, grasping with them the feet, which are generally situated near the os uteri, and drawing down the inferior extremities into the vagina, and delivering. I know that the inferior extremities may often be brought down in this way where it is impossible to pass the whole hand through the os uteri."

The same state of things may however result from other causes, and a very different mode of proceeding may then be needed, as the doctor very clearly shows.

"Flooding may take place in the latter months of pregnancy, and during labor, where the placenta does not adhere to the neck of the uterus, but to the body or the fundus, and is detached by some external or internal cause. The separation of the placenta from the upper part of the uterus may be produced by violence, as blows, falls, pressure over the hypogastrium, and shocks of various kinds; but it arises much more frequently from internal causes, of which morbid states of the placenta, and twisting of the umbilical cord once or oftener round the neck of the child, are the most common and obvious. This variety of hemorrhage, though usually termed accidental, can rarely, however, be referred to accident. Sometimes the flooding occurs to a great extent without any assignable cause; a large portion or the whole of the placenta, when in a healthy condition, being suddenly detached from the uterus, when the patient has been exposed to no external accident, or injury of any kind, and when no symptoms of increased determination of blood to the uterus have preceded the attack. When this happens a large quantity of blood is poured out between the placenta and uterus, a small portion of which only at the time usually escapes from the vagina, to indicate what is going on within the uterus. There may be a great internal hemorrhage, accompanied with the ordinary constitutional effects resulting from loss of blood—as faintness, sickness, or vomiting, coldness of the extremities, rapid feeble pulse, hurried breathing; when there is little or no discharge from the vagina to excite alarm, or to point out the source of danger, when it is extreme. It is from the general symptoms of exhaustion, and by the disagreeable sense of uneasiness, weight, or distention of the uterus, experienced, and not from the quantity of blood which appears externally in these cases, that we are led to discover the true state of the patient—to suspect that internal hemorrhage is going on. But much more frequently only a small portion of the placenta is at first detached, and the greater part of the blood which is extravasated between it and the uterus separates the membranes, and descends by its weight to the orifice, and escapes through the vagina. In all cases, however, of uterine hemorrhage in the latter months, the danger cannot be so accurately estimated by the quantity of blood which appears externally, as by the general symptoms. The portion of placenta which is detached never reunites to the uterus, but when expelled it is usually seen covered with a dark coagulum adhering to the uterine surface.

"When the blood escapes in small quantity, and there are no labor pains present, and no disposition in the os uteri to dilate, and the constitutional powers are not impaired, an attempt should be made to prevent a return of the discharge and the occurrence of labor pains. For this purpose, if the pulse is full and frequent, some blood may be taken from the arm, and the patient should be kept in the horizontal position, surrounded by cool air, cold applications made over the hypogastrium, and acetate of lead and opium, mineral acids, and other remedies that diminish the force of the circulation and promote the coagulation of the blood, should be taken internally. The plug is here totally inadmissable; it can only convert an external into an internal hemorrhage. But where the flooding occurs at first profusely, and is renewed even in a moderate degree, in spite of our efforts to check it, the continuance of pregnancy to the full period cannot be expected; it will be of no avail to bleed and administer internal remedies, except for the purpose of checking the discharge, and thus averting the immediate danger until the uterus is emptied of its contents.

"The operation of turning, which is required in all cases of complete placental presentation, is rarely necessary in uterine hemorrhage where the membranes are felt at the orifice. In a great proportion of these cases, where, on making an examination, you can feel the smooth membranes extending across the neck of the uterus, the flooding will be arrested, and the labor safely completed, if the membranes are ruptured, the liquor amnii discharged and contractions of the uterus excited by gentle dilatation of the orifice, and other appropriate means. The only cases in which this treatment fails are those in which it has not been had recourse to sufficiently early, or where the whole or a large portion of the placenta has been suddenly separated from the uterus, and a great internal hemorrhage has taken place. The uterus will not contract effectually in these cases after the membranes have been ruptured; the pains, instead of becoming stronger, become more and more feeble, return at longer intervals, and during these the blood flows more profusely, and death would take place before delivery, if the child were not extracted by the forceps, crotchet, or by the operation of turning. In all cases, then, of uterine hemorrhage in the latter months of pregnancy, and in the first stage of labor, where the placenta does not present, and the quantity of blood discharged is so great as to render delivery necessary, where it appears improbable that the pregnancy can go on longer with safety, or to the end of the ninth month, rupture the membranes with the nail of the forefinger of the right hand, evacuate the liquor amnii by holding up the head of the child, dilate very gently the os uteri with the fore and middle fingers expanded, and occasionally make pressure with the fingers around the whole orifice; apply the binder, give ergot and stimulants, and the uterus will, in all probability, contract upon its contents, and expel them without further trouble. If the hemorrhage should, however, continue after the employment of these means, delivery must be accomplished by the forceps, craniotomy, or by turning, according to the peculiarities of the case. In women who are liable to attacks of flooding after the expul-

sion of the child or placenta, rupture the membranes at the commencement of labor, even before the os uteri is much dilated, if the presentation is natural, and you will often succeed in entirely preventing hemorrhage."

The recommendation to bleed may be with good reason objected to, at least in the great majority of such cases; and I cannot but think that a timely and persevering use of the ordinary remedies, namely, keeping quiet, using acid drinks, and cold fomentations to the abdomen, would do away with any necessity for it at all. I question very much if ever bleeding really prevented abortion from flooding, and I cannot but think that it has often brought it on sooner. Nevertheless, if all other means fail to arrest the discharge, and there are no decided objections to the contrary, it might be cautiously tried; though the policy of taking *more* blood from a person who is already losing *too much*, is not very evident.

I have often known the most severe flooding stopped, merely by the female lying on her back, drinking plentifully of lemonade, and applying cold wet cloths over the abdomen. A small dose of laudanum occasionally is also useful; and complete rest and tranquility of *mind* is as indispensable as rest of the body. Many females flood and miscarry merely from worrying and fretting themselves, and from passion, or strong excitement, *particularly of a certain kind.* This in short must be carefully avoided, and the patient must live strictly as if a widow.

This accident is likely to occur in subsequent pregnancies, at nearly the same time, and should therefore be guarded against by a careful avoidance of all excitement, or violent bodily exertion, during the whole time. Keeping the bowels gently open, and practicing a regular diet, are also requisite. A good supporting bandage is often of frequent service.

CHAPTER LXXV.

ECLAMPSIA, OR CONVULSIONS.

CONVULSIONS are to be looked upon as very serious indications of derangement, during either pregnancy or labor, and are frequently followed by fatal results to both mother and child. They may be of several different kinds, *epileptic*, *hysteric*, or *cataleptic*, though the epileptic form is most common. They often occur during pregnancy, but not usually before the seventh month, though occasionally met with much earlier. According to observations it appears that there is not above one case of convulsions in six hundred deliveries.

The principal cause of this disease appears to be the strong sympathy between the womb and other organs, owing to which they are continually disturbed by the changes it undergoes. Certain temperaments also dispose to it, particularly the lymphatic, and also dropsy, rickets, and other diseases. Strong moral impressions may also have a predisposing effect, such as sudden frights, joy or anger, and also acute pain, or the dread of it.

In most cases, and particularly during pregnancy, the convulsions are preceded, and indicated, by severe headache, and spasm at the stomach with dimness of sight, bright sparks before the eyes, buzzing in the ears, and partial difficulty in speaking. Occasionally, however, the fit comes on quite suddenly, without any warning whatever.

There are few exhibitions of suffering more frightful than one of these attacks, and none that call for more prompt and decided action. In general females are perfectly helpless when one is attacked in this way, and instead of being able and disposed to render proper assistance, they either run away alarmed, or fall into hysterics themselves. It is, however, of the utmost consequence that the sufferer should be attended to instantly, and therefore every female should know what to do in such an emergency, at least till better aid can arrive.

At the first commencement of convulsions the features become gradually fixed, the eyes are expanded and distorted, the breath is drawn with difficulty, and all consciousness appears to cease. The body then begins to twitch, the mouth opens, usually on one side, the tongue protrudes, the head turns on one side, and the blood rushes to it and the face in great quantities. In a short time the jaws close again with great force, and the tongue is bitten if proper care has not been taken to prevent it. At last the eyes begin to twinkle, the mouth moves as if the patient were muttering, and the nostrils expand; the arms are thrust straight down by the sides of the body, with the hands firmly closed; the legs are stiffened straight out, and the body is bent back like a bow. In short, every muscle is affected with spasms, which are sometimes fearfully violent, and may endure for a considerable time. When they subside, the fit gradually terminates and passes off. During the whole time the breathing is difficult, the mouth froths very much, and the heart palpitates quickly,

but irregularly. When the spasm is over, the patient falls into a perfect stupor, during which she remains unconscious, but with all the limbs soft and movable, except the fingers, which appear to grasp. The jaws generally remain closed, and so do the eyes, but they may be easily opened, and will sometimes remain open; the breathing becomes powerful and loud, and the pulse beats with rapidity. At last slight motions are observed, and consciousness gradually returns, but the memory is generally gone for some time. This state of stupor usually lasts from ten minutes to half an hour, but has been known to continue for many hours, or even a whole day. The spasm seldom continues more than from one to ten minutes, though it has lasted for an hour or more.

These convulsions might be mistaken for ordinary hysteria by those not acquainted with the difference. In hysteria, however, the female moves about and struggles more; she also cries out, and retains both sensibility and consciousness, so perfectly even sometimes that she requests those around to hold her, which is never the case in convulsions.

During the stupor it might be supposed by any one not aware of the previous fit, that the patient was suffering from apoplexy, or intoxication, the appearance being so similar to that exhibited in those states. This shows the necessity for careful inquiries as to what has previously occurred.

During pregnancy, convulsions generally cause abortion, either by bringing on uterine contractions, or by causing the death of the child. Some few patients have suffered from them, however, and yet gone their full time, but this must never be expected. A gradual extinction of the vital spark, during the stupor, is the ordinary termination, though sudden death is not unfrequent, during the fit. Gradual recovery is occasionally witnessed, but seldom without partial loss of memory, or some other affliction. Madame Lachapelle says that *one-half* of the females attacked with convulsions die, and of their children many more.

There is no doubt but that the *tendency* to this fearful affliction may be very much lessened in many females, by proper attention to diet and regimen. Those who are of a full habit, and disposed to headache, and rush of blood to the head, should live low, and carefully avoid everything of a heating or stimulating character, and also every kind of excitement or agitation. The bowels should be kept free, and the skin well rubbed and kept warm, and the head cool.

Treatment.—While the patient is in the fit, care must be taken that she does not fall off the bed, or bite her tongue, to prevent which the jaws must be kept apart, by putting something between, as a piece of soft wood, or the handle of a spoon covered with cloth, or even a knotted napkin. The face should be sprinkled with cold water, and the whole body well chafed, particularly the hands and feet, which should also be made warm as soon as possible. As soon as the spasm is over, it is customary to bleed, either at the arm, or by leeches to the temples and behind the ears. Mustard poultices should also be applied to the feet, and inside the thighs, and an enema should be given of warm water and a tablespoonful of salt. Ice, or cold water, should be applied to the head constantly, and, if possible, the body should be immersed in a hot bath, which will, in many instances, bring the patient round immediately without any other treatment. The bladder should be also looked to, as well as the bowels, and if necessary the catheter should be used. As soon as she can swallow, a few drops of laudanum may be given, or a little ether, but not a full dose by any means.

The propriety of bleeding, even in these cases, is denied by many, and I am

almost inclined to think myself that a prompt and persevering use of the other remedies mentioned would be fully as successful without it. At all events, the fearful mortality in spite of it proves that it has not much power, and may well raise a doubt of its utility.

Convulsions, however, are so fearful and violent, that few practitioners can resist the temptation to bleed, because it seems so well calculated to give prompt relief, and besides it has popular prejudice in its favor. Some authors, however, assert that it makes the danger greater of paralysis and loss of memory afterwards.

When convulsions occur during pregnancy they seldom cease entirely till the uterus is emptied of its contents. It is therefore necessary to bring on labor, and terminate it as soon as possible, after the parts are in a proper condition. When they occur during labor, it must also be finished in the shortest time possible to afford the best chance of saving the child, and also because no treatment will prevent the attack while the patient remains undelivered. All means of bringing on dilatation of the mouth of the womb, mentioned in previous articles, may be resorted to, excepting *ergot*, which should never be used in these cases.

M. Chailly tells us that in thirteen cases of convulsions, *nine* were first pregnancies, and *seven* of the females were dropsical. Only *one* was attacked during pregnancy, *ten* while in labor, and *two* after. Only *two* died, and *ten* of the children.

It is worthy of remark that where pregnant females have had convulsions, apparently from living too high, the children have also had them after delivery.

CHAPTER LXXVI.

RUPTURE OF THE WOMB OR VAGINA.

RUPTURE of the womb arises from various causes, but most usually from powerful contractions when the pelvis is small, or the fœtus large, or when it presents unfavorably. It not unfrequently results also from force being used, particularly with *instruments*. In fact there is no doubt but that *numerous* females die from this accident, brought on by the violence, haste, and want of skill of their attendants. Few injuries are more serious, or more beyond the reach of any remedy than this, though it is sometimes suffered with impunity.

The symptoms of rupture of the womb are strongly marked, and fearfully evident. When it occurs, which is most usually during a powerful contraction, the female shrieks, and instantly complains of an agonizing pain over the seat of the rupture; her face grows deadly pale, her pulse falls, and she faints. In general *death* is almost instantaneous, though sometimes life may be preserved for an hour or two, but very seldom. There have been cases of recovery, but they are very few, and regarded almost as miracles.

In most cases, directly the rupture happens the fœtus escapes through the rent into the abdomen, and most of the fluid with it; but sometimes it still remains in the womb, and then if the liquor amnii is discharged there may little or nothing pass through the opening, and the danger will be much lessened in consequence. In all cases the only proceeding which offers any chance of recovery is, *to deliver as soon as possible*, because when the fœtus is expelled the uterus begins to contract, so as to close the wound, and when that is effected, if but little fluid has passed into the cavity of the abdomen, all may yet go well. It may frequently happen, when the hand is passed into the womb, to turn and deliver, that nothing can be found, the fœtus having passed through the opening into the abdominal cavity, in which case the hand must be passed through the opening also, and the fœtus be brought back if possible. If however the rent is too much closed, or the child cannot be reached, the *Cæsarean* operation is the only resort.

M. P. Dubois tells us of a case of this kind which occurred in his own practice. The female had only been in labor about an hour when she uttered a piercing cry, and sank as if suddenly mortally wounded. The head of the child, which was previously at the mouth of the womb, could not be felt, and on introducing his hand M. Dubois found its feet were passed through the opening into the mother's abdomen; he brought them back, however, and effected delivery by turning with comparative ease. Strange to say this woman was discharged *cured*, in fifteen days after, though the uterus was so torn that the intestines had forced themselves through the opening into its cavity, and M. Dubois put them back with his hand, which also passed clear into the peritoneal cavity. In all cases, after the delivery is effected, the womb should be

again explored, so that if any parts have come through they may be returned before the opening closes, which it may do very soon.

Cases are even mentioned where the child passed clear out of the womb into the abdominal cavity, and remained there till it absorbed, or escaped through a fistulous opening many years after; while the womb healed up, and otherwise the patient perfectly recovered. Recovery however, in any way, is a rare occurrence.

Some females seem more disposed to this accident than others; possibly from a peculiar tenderness in the substance of the womb. All are however liable to it, and this liability should beget a proper caution in all manipulations, and forbid uncalled-for violence in any way.

Rupture of the vagina is much less serious than rupture of the womb, unless it occurs at the upper part, when it may give rise to similar symptoms and results. At the lower part the danger is much less, though still sufficient to excite apprehension.

The treatment is the same as in the former case. Delivery must be effected as soon as possible, and the patient kept still and cool to avoid inflammation.

It is generally thought that the greater part of these accidents result from improper treatment, and particularly from using instruments improperly, or unnecessarily.